R E P O R T R E S U M E S

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AUDIOLOGY AND EDUCATION OF THE DEAF, A RESEARCH PROJECT AND TRAINING MANUAL SPONSORED BY THE JOINT COMMITTEE ON AUDIOLOGY AND EDUCATION OF THE DEAF.

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CONFERENCE OF EXECUTIVES OF AM. SCHOOLS FOR DEAF

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DESCRIPTORS- *AURALLY HANDICAPPED, *AUDIOLOGISTS, *SPECIAL EDUCATION TEACHERS, DEAF, SURVEYS, AUDIOLOGY, TEACHER EDUCATION CURRICULUM, CLINICS, INTERPROFESSIONAL RELATIONSHIP, CHILDREN, ADOLESCENTS, ADULTS, HARD OF HEARING, QUESTIONNAIRES, SPECIAL EDUCATION, PROFESSIONAL TRAINING, SPEECH CLINICS, ATTITUDES, HEARING CLINICS, NATIONAL CONFERENCE ON AUDIOLOGY AND EDUCATION OF THE DEAF

TO IMPROVE UNDERSTANDING BETWEEN AUDIOLOGISTS AND EDUCATORS OF THE DEAF, THE AMERICAN SPEECH AND HEARING ASSOCIATION AND THE CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF SPONSORED A TWO YEAR PROJECT. FIVE DIFFERENT QUESTIONNAIRES WERE SENT TO SPEECH AND HEARING CENTERS, SCHOOLS FOR THE DEAF, TEACHERS OF THE DEAF, AND AUDIOLOGISTS. THE SURVEYS WERE DESIGNED TO--(1) ASSESS THE AMOUNT OF AUDIOLOGY IN TEACHER OF THE DEAF TRAINING PROGRAMS AND EDUCATION IN AUDIOLOGY TRAINING PROGRAMS, (2) DETERMINE TYPES OF AUDIOLOGIC SERVICES PROVIDED THE DEAF IN SPEECH AND HEARING CLINICS AND IN EDUCATIONAL PROGRAMS FOR THE DEAF, AND (3) EXAMINE THE ATTITUDES OF AUDIOLOGISTS AND TEACHERS TOWARD THEIR TRAINING AND TOWARD EACH OTHER. THE NATIONAL CONFERENCE ON AUDIOLOGY AND EDUCATION OF THE DEAF WHICH MET IN DECEMBER 1964 FORMULATED 29 SPECIFIC RECOMMENDATIONS DEALING WITH IMPROVEMENT IN TRAINING, SERVICES, AND INTERPROFESSIONAL RELATIONSHIPS. THE LAST PHASE OF THE PROJECT WAS A REGIONAL MEETING HELD IN WHITE PLAINS, NEW YORK, TO DETERMINE THE FEASIBILITY OF OTHER REGIONAL MEETINGS. THE GENERAL CONCLUSIONS DRAWN FROM THE PROJECT WERE--(1) THERE SHOULD BE A GREATER EMPHASIS ON DEAF EDUCATION IN AUDIOLOGY TRAINING PROGRAMS AND A GREATER EMPHASIS ON AUDIOLOGY IN TEACHER OF THE DEAF TRAINING PROGRAMS, (2) INCREASED COOPERATION BETWEEN AUDIOLOGISTS AND TEACHERS OF THE DEAF IS NECESSARY AT ALL REHABILITATION FACILITIES TO IMPROVE AUDIOLOGIC SERVICES FOR CHILDREN AND ADULTS. APPENDIXES PRESENT THE FIVE QUESTIONNAIRES USED, A LIST OF PARTICIPANTS, AND A LIST OF RESOLUTIONS ACTED UPON AT THE NATIONAL CONFERENCE ON AUDIOLOGY AND EDUCATION OF THE DEAF. SIX REFERENCES ARE INCLUDED. (HK)

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SPONSORED BY THE

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OF THE DEAF

A COMMITTEE ESTABLISHED BY THE

AMERICAN SPEECH AND HEARING ASSOCIATION

and the

CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS

FOR THE DEAF

1965

AUDIOLOGY AND EDUCATION OF THE DEAF

a research project and training manual sponsored by the

JOINT COMMITTEE ON AUDIOLOGY AND

EDUCATION OF THE DEAF

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1965

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

FOREWORD

Changing human behavior is not a simple undertaking. There is no concensus on the optimum procedures. Witness the quite diverse attempts by educators, advertisers, United Nations diplomats, and psychoanalysts. Each has his own method, and each achieves some measure of success, or at least we would like to think so.

The goal of the Joint Committee on Audiology and Education of the Deaf was frankly and openly to change behavior. There was a desire to change the behavior of both audiologists and teachers of the deaf in order to improve services to deaf people through fuller utilization of the skills that both professions can potentially bring to bear on that task.

Among the major problems was the fact that on the one hand many schools for the deaf were not making maximum use of the services and knowledge of audiologists, particularly as it applies to evaluation and use amplification; on the other hand, many hearing and speech clinics were either not providing services to deaf people, or that service was being provided by persons lacking appropriate knowledge and training.

Fortunately, the motivation necessary for behavior change was present. That is, we were dealing with people of good will who earnestly desire to do the best possible job in serving the habilitative and rehabilitative needs of people who are deaf.

Most casual attempts to find a solution were hampered by lack of information. We simply did not know what conditions actually existed. Everyone could report his own way of dealing with the problem, but there was no factual descriptive information on the status quo. The Committee's attempts to remedy that situation fill the majority of the following report. We leave it to the individual reader to judge the adequacy of our efforts. For a number of very practical reasons, the survey was limited in its scope. The reader is cautioned to examine the sampling procedures carefully before generalizing too freely from these results. In some cases it is possible to make generalizations, while in others, in the clarity of hindsight, it is not. At least the data offer some picture of service and training conditions at the present time, while at best, primarily through the judicious selection of Editor Ira Ventry, they offer some penetrating insights into the feelings and attitudes of some of the more articulate respondents.

Unfortunately, information alone doesn't change behavior. The Committee recognized this. One undoubtedly successful, although not always feasible, approach is to spend more money. Given appropriate funds, even the smallest school for the deaf can have a Ph.D. audiologist on its staff and the necessary equipment to provide the very finest of audiologic services in all of its ramifications. Or any size hearing and speech clinic can hire an experienced educator of the deaf (if they can find one) to provide services to the clinic's deaf clients. It is hard to fault these approaches; they quite obviously work, but it is equally obvious that they are not often possible.

At a more realistic level, the Committee believed that at least a beginning might be made in changing behavior if the information about the status quo gathered in the surveys could be widely disseminated, and, more importantly, discussed and reacted to by both audiologists and educators. A conference would offer such an opportunity, but, even better, would provide a chance for participants from both professions to get to know each other better and, hopefully, to come to appreciate each other's problems, limitations, and contributions to the common goal.

It was difficult to decide who should be invited to this conference. There was a clear concensus that the important people would be the audiologists and teachers of the deaf who were actually providing service by teaching children, testing hearing, advising parents, and so forth. It was their behavior that would have to be changed if the effort was to succeed. At the same time, it was recognized that it was also necessary to change the attitudes and behavior of the executives and administrators, the people who "run" programs and establish policy, and who facilitate change, even though they actually do not provide direct service themselves. On the one hand, there was a desire to develop understanding and more favorable attitudes on a national level, while on the other hand, there was an awareness that the important job had to be done in depth at the local level.

The compromise solution, and the Committee hoped it was a solution, was to hold a national meeting, followed by a series of regional meetings, one in each of the nine Vocational Rehabilitation Administration districts.

The deliberations of that first national meeting, held in Tucson, Arizona, in December, 1964, are included in the report that follows. It was decided to attempt to summarize the deliberations in a series of resolutions which were put to a vote. This was done so that the record would be clear on specific issues and not merely represent the concensus of the recorders or editors. It was felt

that this procedure would also insure that every participant's voice be heard, if only in the ballot box.

In retrospect, it is not clear that this was a wise decision. The biggest difficulty for two professional groups concerned with communication was communication. Framing resolutions in terms that were shared and understood by both groups was an arduous task. Fortunately, the ballots did permit participants to indicate that they agreed with the resolution, agreed with reservations, disagreed, strongly disagreed, or abstained. Quite possibly some of the disagreement in the balloting was over the wording rather than the intent of the resolution. It is our hope that despite these ambiguities, the results of this polling of a nationwide group will be of interest and value in the regional meetings that are to follow.

Furthermore, the resolutions make it appear that the conference was much more orderly and efficient than was the case. It may well be an oversimplification, but it appeared that a considerable amount of time in the early deliberations was spent in "sizing the other fellow up." This gave way to a phase of: "Now at home we do it this way..." followed, in turn, by confessions such as: "The truth is that our audiometer hasn't been calibrated since we got it."

It was only then in a spirit of frankness and candor that true communication began to take place. Problems were aired and tentative solutions discussed. We may never know how much behavior was actually changed but the Committee was encouraged by overheard comments, such as "You know, that's something we could easily include in our program."

In closing, it would be inappropriate to leave unmentioned the particular debt the Committee owes to the Vocational Rehabilitation Administration for their interest in and support of these undertakings. Their interest was perhaps most articulately summed up in the words of Commissioner Mary E. Switzer, whose message opened the Tucson Conference: ". . . I am sure that this meeting will produce new understanding and provide a sound basis for finding the most progressive ways to help deaf persons master their special problems and live lives of satisfaction and usefulness."

The success of the Committee's efforts and the accuracy of Commissioner Switzer's prediction will depend upon the interest, the enthusiasm, and perhaps, the willingness to change on the part of the participants in the regional meetings.

Edgar L. Lowell, Chairman
Joint Committee on Audiology
and Education of the Deaf

ACKNOWLEDGEMENTS

This project would not have been possible without the cooperation of the more than 1,000 individuals who took the time to respond to the survey questionnaires. The cooperation of these people is, we think, a reflection of their dedication to the goals of the project. We also wish to express our appreciation to Gallaudet College, Leonard M. Elstad, President, for making it possible to use the College's data processing facilities and to Dr. Jerome Schein and Mrs. Evelyn Cates for their considerable assistance in processing the questionnaires. Finally, the editor wishes to thank the members of the Executive Committee of the Joint Committee on Audiology and Education of the Deaf for their help in the preparation of this manual.

AUDIOLOGY AND EDUCATION OF THE DEAF

CHAPTER I

INTRODUCTION

In recent years relationships between audiologists and educators of the deaf have been hampered by lack of communication and of interaction. Though the two groups share many areas of mutual concern, both being intimately involved in providing services to the deaf and severely hard of hearing, few effective and meaningful relationships exist between the two professional groups. It is also apparent that despite the important role audiologic services can play in the rehabilitation of deaf individuals, members of both professions have failed to make maximum use of these services.

In recognition of the harm that could result from a long-term estrangement between audiologist and educator, the American Speech and Hearing Association (ASHA) and the Conference of Executives of American Schools for the Deaf (CEASD) formulated the two-year project described in this report.

The general purpose of the project was the development of improved understanding between educators of the deaf and audiologists in order to improve and expand audiologic services to the deaf. The specific goals of the project were as follows: (a) to assess the current emphasis on audiology in teacher of the deaf training programs and the emphasis on education of the deaf in audiology training programs; (b) to determine the types of audiologic services provided deaf children and adults in speech and hearing centers; (c) to determine the kinds of audiologic services available in educational programs for deaf children, and (d) to examine the attitudes of teachers and audiologists toward their academic training in each of the two areas. Related subgoals included the assessment of relationships between the two professional groups and the determination of the steps each group recommended for improving these relationships. From the outset, it was decided that before meaningful steps could be taken to improve relationships and understanding, one first had to determine the current status of such relationships as well as the current status of audiologic services available to the deaf.

The major methodological tool employed in the project was the survey questionnaire. The first year of the study (July, 1963 to June, 1964) was devoted to developing the questionnaires, pretesting them, then gathering and analyzing the data.

The second year of the project (July, 1964 to May, 1965) was devoted primarily to planning and conducting a National Conference on Audiology and Education of the Deaf. This Conference, held in Tucson, Arizona in December, 1964, brought together people prominently involved in training audiologists and teachers, those providing audiologic services, and those educating deaf children. They were brought together to discuss and react to the survey data, to formulate suggestions for resolving interprofessional problems, and to help initiate the dialogue between educator and audiologist. A portion of the second year was also spent in planning and conducting a pilot regional meeting held at the New York School for the Deaf in White Plains, New York, in April, 1965. The goals of the regional meeting were similar to those of the National Conference but there were two important differences. One of the primary goals of the regional meeting was to determine the feasibility of conducting a series of similar meetings throughout the United States. A second difference lay in the nature of the participants at the regional meeting. Whereas the National Conference participants were primarily administrators, the participants at the regional meeting were primarily the "workers" — the supervising teacher, the supervising audiologist, as well as the practicing teacher and audiologist.

The success of the pilot regional meeting plus the recognized importance of continuing the dialogue between audiologist and teacher led to a series of regional meetings on audiology and education of the deaf held in 1965 and 1966. The regional meetings were sponsored by a Vocational Rehabilitation Administration (VRA) Training Grant while the first two years of the project were supported by VRA research funds.

This, then, is an overview of the project. The remainder of this report will describe the activities and results of the project with particular emphasis on the surveys and the National Conference.

CHAPTER II

THE MIAMI BEACH MEETING AND THE JOINT COMMITTEE ON AUDIOLOGY AND EDUCATION OF THE DEAF

Early in 1962, five representatives from CEASD, five representatives from ASHA, and three representatives from VRA met for two days in Miami Beach, Florida to discuss ways to improve interprofe sional relationships.[1]

Considerable ground was covered at this meeting with many more questions raised than answers provided. Discussion, for the most part, centered around the audiologist and audiologic services. What knowledge, skills, and attitudes should an audiologist have if he is to work in a school for the deaf? What services can he provide in such a setting? What help do audiologists receive in their academic training that enables them to function effectively in a school for the deaf? What is the audiologist's role in parent counseling? Similar questions were raised concerning teachers of the deaf. What should teacher of the deaf training programs provide in audiology? What audiologic services are offered by deaf education programs? How many schools are seeking audiologists?

Several informal recommendations were formulated by the participants at the meeting. One suggestion was that a joint committee be established to formalize liaison between the groups and to assess current relationships, needs, and problems. Another suggestion was that attempts should be made to facilitate relationships and communication between universities and schools for the deaf. A third suggestion was that local rehabilitation services for the deaf be strengthened through a study of the needs of the deaf with respect to audiologic services. It was also suggested that the standards and training committees of both organizations should meet to discuss academic training, course descriptions, and so forth.

Two tangible achievements of the Miami Beach meeting were the establishment, several months later, of the Joint Committee

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[1] *CEASD was represented by Marshall Hester, Ben Hoffmeyer, William McClure, Howard Quigley, and Hugo Schunhoff. ASHA representatives were Leo Doerfler, Richard Dixon, Kenneth Johnson, Freeman McConnell, and S. Richard Silverman. Stephen Quigley, Ray Summers, and Boyce Williams represented VRA. Darrel Mase served as chairman of the meeting.*

on Audiology and Education of the Deaf (JCAED),[2] and the development of a research proposal that was submitted to and approved by VRA. A half-time research director (the author) was employed on the project in July, 1963.

To facilitate the activities and operation of the Joint Committee, an Executive Committee[3] was appointed to actively participate in and monitor the project's research activities. The Executive Committee met for the first time in July, 1963 to develop the rough outlines of four questionnaires (see Chapter III). These were to be used to survey (a) audiology and teacher of the deaf training programs, (b) speech and hearing centers, (c) schools and classes for deaf children, and (d) audiologists and teachers of the deaf. Plans for the National Conference were discussed briefly at this meeting.

The Executive Committee, in its second meeting, held in October, 1963, continued to focus on the questionnaires with the majority of the discussion centering around the first drafts of the questionnaires. A project time table was developed, and further details concerning the National Conference were ironed out.

A third meeting was held in February, 1964 to further discuss the questionnaires, to evaluate the pretest results, and to make final changes in the questionnaires. Additional time was devoted to planning the National Conference and to laying the groundwork for the pilot regional meeting scheduled for the spring of 1965.

The fourth meeting in the first project year was for the full Joint Committee, held in June, 1964 in Salt Lake City, Utah (previous meetings of the Executive Committee were held in Washington, D.C.). The major purposes of this meeting were: (a) to familiarize the Joint Committee members with the more important results of the surveys; (b) to complete the plans for the National Conference; and (c) to discuss the particulars of the pilot regional meeting.

Only one meeting of the Joint Committee was called during the second grant year. This meeting, held immediately prior to the National Conference, was used to work out last minute arrangements for the Conference and to provide members of the Joint Committee an opportunity to meet with the planning committee for the pilot conference.

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[2]*The JCAED is comprised of the original ASHA and CEASD representatives to the Miami Beach meeting plus Stephen Quigley, Richard Schiefelbusch, and Edgar Lowell, Chairman.*

[3]*Members of the Executive Committee are Leo Doerfler, William McClure, Stephen Quigley, and Edgar Lowell, Chairman.*

One meeting of the Joint Committee is scheduled for the third year (1965-66). The primary purpose of this meeting will be to review past activities and to plan future activities of the Committee. Obviously there is a need to consolidate whatever gains have been made in these past several years as well as to strive for solutions to problems that continue to confront audiologists and educators.

One last point with respect to the activities described above: the description of the Joint Committee activities has been provided, not only to describe what has been done and accomplished, but also to show how individuals of differing backgrounds, needs, and interests can work positively and meaningfully for a common good. This fact alone attests to the success of the project. A description of the sequence of events as well as the rough time table outlined above might serve as guidelines for subsequent projects of this nature.

CHAPTER III

THE SURVEYS AND SURVEY RESULTS

A. Introduction

The purpose of this chapter is to describe briefly the development of the questionnaires and to present the survey results. After a brief overview describing the general procedures used in the questionnaire development, data will be presented for each separate survey along with any specific information that is related to the individual questionnaire. An attempt will be made to tie the material together in a "Discussion and Implications" section.

It should be emphasized that the results presented in this section comprise only a portion of all the results obtained in the surveys. The results presented below appear to have the greatest importance, but, needless to say, many other analyses could have been made on the available data. One final point, the data have not been subjected to statistical analysis or test. While a portion of the data could be analyzed statistically, the purpose of the project was not to test hypotheses or to demonstrate statistically significant differences. Rather, the purpose was to gather information on the current status of relationships, to shed light on problem areas, and hopefully, to present some meaningful solutions to these problems. In addition, since this report is also to be used for training, it was felt that the materials presented should not be encumbered with statistical treatments. The data, therefore, have been treated descriptively.

B. Overview of the Development of the Questionnaires

The development of each questionnaire followed the same general pattern. First, the Executive Committee of the JCAED outlined those general areas of interest on which data were to be gathered. These general areas fell into such categories as personnel, curriculum, equipment, attitudes, and so forth. Next, the Research Director, working in conjunction with a questionnaire consultant,[1] developed the specific questions that were to be used

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[1] *Dr. Eleanor Godfrey, of the Bureau of Social Science Research, served as the questionnaire consultant for the project. Dr. Godfrey also assisted in solving sampling problems and was involved, to some extent, in the data analyses.*

for each general area. The Executive Committee then reviewed all the materials developed to this point, suggesting revisions of questions, additional areas that might be explored, and so forth. Following this review, the questionnaires were again revised. The next step was the pretest phase. In this phase, drafts of the questionnaires were sent to randomly selected subsamples of the larger samples that would eventually be surveyed. These subsamples generally consisted of from 5 to 10 percent of the samples that were to be used in the study. The individuals used in the pretest were asked to complete the questionnaire draft, but at the same time they were asked to note questions that were unclear or misleading, important areas that were omitted, length of time it took to complete the questionnaire, ease or difficulty in reporting some of the numerical information that was required, and to make any suggestions that they felt would improve the questionnaire. After the pretest results were in, the questionnaires were revised once again, taking into account the comments and suggestions that were made on the pretest draft. The final questionnaires were then mailed to the complete sample. It required approximately seven months to develop the questionnaires that were ultimately used in the study. Specific details related to each of the questionnaires, as well as the results, are presented below.

C. Audiology and Teacher of the Deaf Training Programs

Goals. A major factor that seems to have an adverse affect on interprofessional relationships is the attitude, noted among individuals in both groups, that individuals in the "other" group are not adequately trained in audiology or in education of the deaf. It would follow then that individuals in the "other" group are not able to utilize audiologic/educational data, they do not understand the problems involved in audiologic assessment/teaching deaf children, they do not appreciate the importance of the contributions being made by audiologists/educators, and so forth. Is this attitude a realistic one? To provide at least a partial answer to this question, training programs were surveyed to (a) determine if audiologists participate in the training of teachers and vice versa, (b) assess the attitudes of directors of training programs about training in the other area, and (c) determine the types of relationships that exist between training programs and related facilities such as speech and hearing centers and schools for deaf children. Hopefully, the data obtained would shed some light on the nature of the training being offered and perhaps point the way toward improved curricula in both areas.

Sample Surveyed. The samples used to obtain information about audiology and teacher of the deaf training programs were as follows. For audiology training programs, all colleges and universities were surveyed whose audiologists, upon graduation from the program, could meet the academic requirements for ASHA's Basic Certificate in Hearing.[2] The list of such colleges and universities was obtained from an ASHA survey conducted in 1963 (Asha, 1963). The total number of programs surveyed was 88. A total of 84 usable questionnaires was returned representing a 95 percent response.

All college and university teacher of the deaf training programs approved by the U. S. Commissioner of Education under Public Law 87-276 were surveyed. The number of such programs in 1963-64 was 46. A total of 41 usable questionnaires was obtained representing an 89 percent return.

Description of Questionnaire. Although different questionnaires were sent to audiology training programs (see Appendix A) and to teacher of the deaf training programs (Appendix B), the same major areas were stressed (see above). The principal difference in the questionnaires was on the curriculum item (question 8 on both questionnaires). The purposes of this question were to determine (a) what curriculum items directors of training programs felt were important for their students, and (b) whether that particular item was available to their students. An example of an item used in this question is as follows:

Importance				Availability		
Essential	Desirable	Not essential		Required	Available	Not available
[ ]	[ ]	[ ]	e) Psychophysical methods (concept of threshold, psychophysical procedures, etc.)	[ ]	[ ]	[ ]

[2] *The academic requirements for basic certification were last listed in the 1964 ASHA Directory. Certification requirements have been changed as of January 1, 1965.*

It is important to point out that the audiology training program questionnaire contained items that dealt primarily with course content found frequently in teacher of the deaf training programs (for example, systems of orthography used in teaching speech to the deaf). The questionnaire for the teacher training programs, on the other hand, contained items found frequently in audiology training programs (for example, special audiometric techniques). Eight items were the same on both questionnaires. These were curriculum items that were likely to be found in either or both audiology and teacher training programs (for example, speechreading). The reason for the inclusion of audiology items on the teacher training questionnaire and vice versa is simple. It would not have been too meaningful to ask directors of teaching training programs, for example, to rate the importance and indicate the availability of items that are obviously essential (and available) in teacher training programs. The more meaningful approach was to determine what items in the other area directors felt were important to their students.

Several additional points should be noted with respect to the curriculum question. First, the subitems within the question were not designed to represent course titles or to indicate separate courses. The intent was to develop a set of items that, taken together, would represent the essential content of audiology and teacher training curricula. Second, the items used were culled from several different sources, including ASHA's certification requirements, the standards set by CEASD, the booklet entitled, Teachers of Children Who Are Deaf (Mackie, 1955), and the opinions of the members of the Executive Committee. Finally, with the exception of one item, the items used in the training program questionnaires were the same ones, after eliminating duplications, that appeared on the questionnaire sent to individual audiologists and teachers of the deaf (see Appendix F, question 11).

Results. The first analysis deals with personnel involved in training. The purpose here was to determine the extent to which audiologists are involved in training teachers and vice versa, the qualifications of the individuals so employed, and the reasons for not having a member of the other profession on the training program staff. Table 1 shows the number of programs having a member of the other profession on the staff broken down by type of institution. Several observations can be made. First, nearly 75 percent of the teacher training programs reported that they had an audiologist on their staff while only 45 percent of the audiology training programs indicated that they employed an

educator of the deaf. This same trend is apparent for each institution category except for the private university category. Sixty percent of the audiology training programs in private universities reported having an educator of the deaf on the staff, a higher proportion than found overall. Nearly 90 percent of the teacher training programs in colleges have an audiologist on the staff, but educators are employed in only 50 percent of the audiology training programs in colleges.

We tried to determine why training programs did not have a member of the other profession on their staff. For 7 of the 11 teacher training programs falling into this category, the reason was straightforward; namely, that "courses related to audiology are offered in other departments." This was also the reason given by 8 of the 46 audiology training programs not having an educator of the deaf on their staff. However, 20 percent of the 46 programs indicated that there was "insufficient time in training program to offer courses related to education of the deaf and, thus, have no need for an educator of the deaf." Interestingly enough, 13 percent of the audiology training programs felt that their present staff was adequate to meet instructional needs and an additional 14 percent reported that they had inadequate funds to hire a teacher of the deaf.

Table 1. Educator or audiologist on staff by type of institution.

Type of Institution	Teacher Training Program-Audiologist on Staff		Audiology Training Program-Teacher on Staff	
	Yes	No	Yes	No
State or municipal university	12	6	19	31
Private university	5	3	12	8
State or municipal college	4	1	6	7
Private college	9	1	1	0
Total	30	11	38	46

Only 25 teacher training programs answered the question dealing with their plans to hire an audiologist. Of these programs, 11 (44%) indicated that they were planning to add an audiologist to their staff within the next year or two. Of the 72 audiology training programs responding to the same question, 29 (40%) indicated that they were planning to add a teacher of the deaf to their staff. Perhaps more pertinent is the percentage of audiology training programs without a teacher of the deaf who indicated they were planning to hire one. Of the 46 programs without a teacher, 18 (39%) planned to hire one within the next year or two. Of the 11 teacher training programs with no audiologist, only 2 (18%) planned to employ one.

Table 2 shows some of the characteristics of the 66 educators of the deaf employed in the audiology training programs and the 55 audiologists employed in teacher training programs. Interestingly enough, the year in which the highest academic degree was obtained is remarkably similar for the two groups. For example, for those educators for whom information was obtained (N=54), 56 percent received their highest academic degree in 1958 or earlier. The percentage of audiologists in this category (again excluding nonrespondents) is 57 percent.

The two groups do differ in terms of highest academic degree. Of the audiologists, nearly 60 percent have a doctorate degree while about one-third of the educators have a doctorate.

The data related to certification are interesting. Of the audiologists, 74 percent have ASHA certification whereas 64 percent of the educators have some type of certification related to education of the deaf. It is interesting to note, however, that nearly one-fourth of the educators employed in audiology training programs have only ASHA certification and an additional 8 percent have no certification at all. The question arises as to whether these individuals are indeed educators of the deaf by virtue of training and experience or are merely labeled as educators of the deaf but in fact are audiologists.

Question 7 served as a lead-in to the curriculum question. Directors were asked their opinion about the emphasis currently placed on education of the deaf in audiology training programs and the emphasis on audiology in teacher of the deaf training programs. Table 3 shows the results obtained. Several interesting findings emerge. There is good agreement among the majority of directors of both types of programs that there is too little emphasis on education of the deaf in audiology training programs. A little less than 70 percent of both groups expressed this opinion.

Table 2. Some characteristics of educators and audiologists employed in training programs.

Characteristic	Educators in Audiology Training Programs		Audiologists in Teacher of the Deaf Training Programs	
	No.	(%)	No.	(%)
Year degree obtained				
Pre-1950	15	(23)	12	(22)
1951-1958	15	(23)	16	(29)
1959-1962	19	(29)	14	(25)
1963-Present	5	(08)	7	(13)
No response	12	(18)	6	(11)
Total	66		55	
Highest academic degree				
Bachelors	5	(08)	3	(05)
Masters	39	(59)	20	(36)
Doctorate	21	(32)	32	(58)
No response	1	(02)	0	
Total	66		55	
Certification				
None	5	(08)	3	(05)
ASHA only	15	(23)	27	(49)
CEASD and State	15	(23)	2	(04)
ASHA, CEASD, and State	7	(11)	9	(16)
ASHA and CEASD	8	(12)	5	(09)
CEASD or State	12	(18)	3	(05)
Other	4	(06)	6	(11)
Total	66		55	

Table 3. Opinions regarding emphasis on education of the deaf and audiology.

	Teacher Training Program		Audiology Training Program	
	No.	(%)	No.	(%)
Emphasis on education of deaf in audiology training program				
Too little	28	(68)	58	(69)
Too much	0		2	(02)
About right	5	(12)	9	(11)
No opinion	6	(14)	13	(16)
No response	2	(05)	2	(02)
Total	41		84	
Emphasis on audiology in education of deaf training program				
Too little	21	(51)	56	(67)
Too much	2	(05)	0	
About right	15	(36)	3	(04)
No opinion	2	(05)	24	(29)
No response	1	(02)	1	(01)
Total	41		84	

Intergroup differences arise, however, when it comes to the emphasis on audiology in teacher training programs. Here, 51 percent of the directors of teacher training programs feel that there is too little emphasis, but a sizeable proportion (36 percent) feel that the emphasis is about right. Two-thirds of the directors of audiology training programs believe that the emphasis is too little, while only 4 percent believe that the emphasis is about right. It is interesting that, for whatever reasons, 29 percent of the audiology directors indicated that they had "no opinion" on this matter.

Question 7 contained a section that provided an opportunity for respondents to expand their answers to the "emphasis" question. These "open-ended" responses have not been analyzed in detail.[3] Some of the responses, however, can be used to amplify the data presented above. It should be recognized that responses come from individuals and do not necessarily reflect a group consensus.

One director of an audiology training program who felt there was too little emphasis in both areas had this to say: "audiological training should vary according to the student's interests and needs, but, in general, too few audiologists know enough about the profoundly deaf population in my opinion. Too often their observation of, and practicum experience with, deaf children is very limited. Moreover, theory courses are frequently taught by audiologists with inadequate training and experience in deaf education (I have been required to teach such courses in the past so that I have helped to perpetuate, much to my concern, an undesirable situation)."

Another director of an audiology training program who also felt there was too little emphasis in both areas put it this way: "To the best of our observation and knowledge there appears to be little cooperation between these two areas. Not only do they seem to be operating separately but all too frequently there is little if any real understanding of the function, curricula, and responsibility of the other discipline. At times there appears that there is even antagonism."

Directors of teacher training programs seemed somewhat more critical of the preparation audiologists receive relative to education of the deaf. For example, one director stated: "There is a much greater need for audiologists to understand the educational problems of the deaf, since the audiologist usually sees a child before he is placed in a program for deaf children and frequently takes part in the decision on educational placement."

Self-criticism was also apparent. One director stated: "Too few teachers of the deaf know the true meaning of deafness from the medical, physiological and psychological view point. To do a thorough job of teaching their background must encompass all of the three aspects plus the educational procedure and techniques necessary for instruction...."

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[3]*The major purpose of the open-ended questions was to provide material that would help stimulate discussion at the National Conference. This is the purpose of including some responses to the open-ended questions in this report.*

The curriculum item was perhaps the major item on the questionnaire. The results for the teacher training programs and audiology training programs are shown in Tables 4 and 5, respectively. One major conclusion can be drawn from the data presented in these tables. It appears that directors of teacher training programs have incorporated audiologic curricula into their programs to a much greater extent than audiology programs have incorporated education of the deaf material. To illustrate, of the 15 primarily audiologic items appearing on the teacher training program questionnaire, 8 (53%) were required by more than half of the teacher training programs. On the other hand, of the 11 primarily deaf education items appearing on the audiology questionnaire, not one was required by a majority of the audiology training programs. This finding is not inconsistent with the previous findings indicating that the majority of audiology training programs do not have a deaf educator on the staff, that most of them are not planning to hire one, and that audiology directors themselves believe that there is too little emphasis on education of the deaf in audiology training programs (see Table 3). In view of the data presented in Table 4, one can understand more fully why over one-third of the directors of the teacher training programs indicated that the emphasis on audiology in teacher training programs is "about right."

There are several other interesting facets to the data presented in Tables 4 and 5. For example, only 32 percent of the teacher training programs reported that material related to hearing aid evaluations was essential and required, and only 15 percent required supervised practice in hearing aid evaluation procedures. Perhaps a related finding here is that only 68 percent of the teacher training programs require course content related to residual hearing. Another interesting finding is that linquistics is not required in teacher training programs despite the fact that over 60 percent of the directors indicated its desirability. A high percentage of these programs require that their students obtain information on the anatomy and physiology of hearing (81%), on causes and treatment of hearing impairments (73%), on standard audiometric procedures (73%), and on interpretation of audiometric results (71%). Unfortunately, it is difficult to know from any of this exactly how much time is devoted to these areas in the training of teachers of the deaf.

There are some significant findings for the audiology training programs, as well. For instance, it is not surprising that little emphasis is given in audiology training programs to areas such as teaching language to the deaf or subject-matter instruction. What is surprising, is that so little emphasis is given to areas

Table 4. Importance and availability of audiology curriculum items in teacher training programs (N=41).

Item	Percent[a] of training programs reporting		
	Essential and required	Desirable and required	Desirable and available
Physics of sound	44	15	20
Elementary electronics[b]	17	-	37
Anatomy and physiology of hearing	81	17	-
Causes and treatment of hearing impairments	73	15	-
Psychophysical methods	32	15	27
Audiometers	51	17	24
Standard autometric techniques	73	20	-
Special audiometric techniques[c]	27	-	39
Screening audiometry[c]	27	22	27
Interpretation of audiometric results	71	-	-
Hearing aid procedures	32	-	29
Speechreading*	95	-	-
Residual hearing*	68	-	-
Anatomy and physiology of vocal mechanism*	76	-	-
Nature and assessment of speech and voice disorders*	27	-	46
Linguistics*[d]	-	-	39
Speech and language development*	98	-	-
Observation at speech and hearing clinic	51	-	24
Supervised practice in audiologic evaluation of children and adults	39	15	32
Supervised practice in auditory training of aurally handicapped*	85	-	-
Supervised practice in teaching speechreading to hard of hearing children and adults*	73	-	-
Supervised practice in hearing and evaluation procedures	15	-	49
Supervised practice in screening audiometry[c]	17	-	39

*Items common to both questionnaires.

[a]Only percentages of 15 percent or greater are reported.

[b]15 percent of the sample indicated this item was not essential and not available.

[c]15-17 percent of the sample indicated that these items were not essential but available.

[d]22 percent of the sample indicated this item was desirable but not available.

Table 5. Importance and availability of education of the deaf items in audiology training programs (N=84).

	Percent[a] of training programs reporting					
	Essential—req.	Essential—avail.	Desirable—avail.	Desirable—not avail.	Not essen.—avail.	Not essen.—not avail.
Speechreading*	79	-	-	-	-	-
Residual hearing*	74	17	-	-	-	-
Anatomy and physiology of vocal mechanism*	74	-	-	-	-	-
Nature and assessment of speech and voice disorders*	62	-	-	-	-	-
Systems of orthography	24	-	26	-	-	-
Linguistics*	-	-	61	-	-	-
Speech and language development*	50	18	-	-	-	-
Teaching language to deaf	-	-	36	19	-	-
Manual communication	-	-	-	38	-	46
Teaching reading to deaf	-	-	-	17	25	33
Subject matter instruction for deaf	-	-	-	-	23	36
Psychology of deafness	25	24	18	-	-	-
Social and vocational aspects of deafness	-	-	27	23	-	-
History and philosophy of education of deaf	-	-	26	19	-	20
Supervised teaching of a class of deaf children	-	-	-	20	19	30
Supervised teaching of deaf children in language development, speechreading, or speech development	19	-	29	-	-	-
Planned observations in day schools, resident schools, or classes for deaf	19	18	36	-	-	-
Supervised practice in auditory training of aurally handicapped*	62	19	-	-	-	-
Supervised practice in teaching speechreading to hard of hearing children and adults*	61	17	17	-	-	-

*Items common to both questionnaires.

[a]Only percentages of 17 percent or greater are reported.

such as psychology of deafness, history and philosophy of education of the deaf, and social and vocational aspects of deafness. Further, planned observations in day or residential schools or in classes for the deaf is a requirement in only 19 percent of the audiology programs, although an additional 54 percent of the programs indicated that opportunities for observation were available. One might also expect that a higher proportion of audiology training programs would require work in speechreading and in speech and language development.

The last section of each of the questionnaires focused on the relationships between training programs as well as on the relationships between training programs and other facilities. Of the 41 teacher training programs, 26 (63%) indicated that they had some type of working relationship with a program that trains audiologists. Twenty-four of these 26 institutions indicated that the audiology program was in the same institution. A similar percentage of audiology training programs (N=48 or 57%) reported that they had some type of working relationship with a teacher of the deaf program and of the 48, 33 (69%) reported that the teacher training program was in the same institution.[4] An interesting sidelight here is that of the 48 audiology programs having a working relationship with a teacher training program, 32 (67%) have an educator of the deaf on their staff. Of the 36 programs not having such a working relationship, only 6 (17%) reported an educator of the deaf on their staff.

An attempt was made to determine the types of relationships that exist between teacher training and audiology training programs. Table 6 shows the results of this analysis. Some of the highlights here are as follows: (a) Nearly all (96%) of the teacher training programs having a working relationship with an audiology training program reported that members of the audiology staff participate in training teachers but only half of the audiology programs indicated that educators of the deaf participate in the training of audiologists; (b) A sizeable proportion (85%) of the teacher training programs reported that their students were required to take courses in the audiology program but less than one-third of the audiology programs indicated that their students

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[4]*The discrepancy between the total number of teacher training programs surveyed (N=46) and the number of audiology training programs reportedly working with teacher training programs (48) is simply that not all teacher training programs are approved by the Office of Education. Those programs not approved were not included in the survey. This fact has some effect on the results shown in Table 6.*

are required to take courses offered in the teacher training program; and (c) As would be expected, audiology programs reported a higher proportion of student "teachers" required to take their courses than the proportion of teacher training programs reporting that audiology students had to take their courses. These data seem to again suggest that audiology training programs give less emphasis to education of the deaf than teacher training programs give to audiology.

The final analysis related to training deals only with audiology training programs. Directors were asked if they had some type of working relationship with an educational program for deaf children. Of the 84 audiology training programs, 54 (64%) responded that they did, another one-third indicated that they did not, and 2 percent of the sample failed to answer the question. The types of relationships between audiology training programs and deaf education programs are shown in Table 7. The most common working relationship is that audiology students have planned observations at a school or class for the deaf. The least frequent relationship is that staff members of the deaf education program observe at the audiology training program (presumably in the speech and hearing clinic related to the training program). Forty-one percent of the training programs indicated that their staff members served as consultants to or had staff appointments at a school for the deaf while 33 percent indicated the reverse; that is, that staff of the deaf education program had staff appointments in the training institution. If the data shown in Table 7 are projected to the entire audiology training program sample, one appreciates how infrequently, for example, joint conferences between audiology staff and deaf education staff take place (20 institutions reported having joint staff conferences, representing 24 percent of the total audiology training program sample).

A number of relevant comments were given in response to the concluding item on the questionnaires: "Describe briefly any steps you would recommend for improving relationships between teacher of the deaf training programs and audiology training programs." Probably the majority of the comments from directors of both types of programs centered around the need for audiologists to receive greater exposure to the deaf and more course work (plus practicum) in education of the deaf. To a lesser extent, directors of training programs also emphasized the need for teachers to have a more thorough background in audiology. However, directors of teacher training programs seemed to focus more on the training of audiologists than on the training of their own students, apparently reflecting the feeling that their students receive relatively adequate training in audiology.

Table 6. Types of relationships between teacher training programs (N=26) and audiology training programs (N=48).

Type of Relationship	Teacher Training No. responding Yes[a]		Audiology Training No. responding Yes[a]	
Staff members participate in training of other profession	14[b]	(54%)	29	(60%)
Other profession's staff members participate in training own students	25	(96%)	24[b]	(50%)
Joint conferences between staffs	18	(69%)	26	(54%)
Own students required to take courses taught by other profession	22	(85%)	14	(29%)
Other profession's students required to take courses offered by you	10	(38%)	32	(66%)
Planned observations at speech and hearing clinic for students in teacher training program	Not applicable		27	(56%)

[a]The overall totals exceed the number of institutions responding because an institution could check one or more of the relationships.

[b]One would expect that since 14 teacher training programs indicated that their staff members participated in training audiologists, that the number of audiology training programs indicating that an educator of the deaf participates in the training of audiologists would also be 14. That this is not the case (24 reported that an educator participates in audiology training) is due to the fact that staff members from 10 "non-approved" teacher training programs were being used by the audiology training programs. Other apparent discrepancies in the table are the result of the same factor.

Table 7. Types of relationships between audiology training programs (N=54) and educational programs for the deaf.

Type of relationship	Audiology Training Programs No. responding Yes	
Planned observations by students at school or class for deaf	44	(81%)
Planned observations by staff at school or class for deaf	27	(50%)
Members of staff serve as consultants or have staff appointments at school for deaf	22	(41%)
Joint conferences between staff and staff of school for deaf	20	(37%)
Teachers of the deaf from educational program have staff appointments in audiology training program	18	(33%)
Planned observations at training program for teachers of the deaf	12	(22%)
Other	11	(20%)

With respect to training, there were more than a few comments suggesting that those in charge of training programs work more closely together in the preparation of their students, with an interchange of faculty, joint staff conferences, a closer working relationship in the planning of course content, and the inclusion of several core courses that would be common to the training of both audiologists and teachers.

Another series of suggestions was related to improving communications between audiologists and educators of the deaf. Short-courses, workshops, publications, and joint professional meetings were all suggested as means for effecting improvement. As one respondent put it: "Professional groups—like most persons—learn best through reinforced familiarity with the missions and procedures of others."

A recurrent (and related) theme appearing in many comments is that steps should be taken to develop a clearer understanding of the responsibilities, roles, and functions of each professional group. Lack of information or misinformation about what teachers or audiologists do, or are supposed to do, results in communication breakdown, misunderstanding, and negative attitudes. Several respondents indicated that audiologists "lack respect" for

or feel superior to teachers of the deaf. It seems that these are attitudes that would be difficult to develop if the responsibilities, objectives, and procedures of teachers were better understood.

Perhaps this brings us back to the role of the training program. A director of a teacher training program put it this way: "Directors (of audiology training programs) should advise their students of the basic differences between clinicians and classroom teachers of the deaf. Directors should help create respect for teachers of the deaf instead of creating a belittling attitude. Respect must come from the 'top'." A director of an audiology training program sums it up as follows: "Develop a better understanding of the function, curricula, and responsibilities of the other discipline through closer working relationships during training and at the professional level."

Summary. Generally speaking, teacher of the deaf training programs seem to have incorporated more of audiology than audiology training programs have incorporated education of the deaf. This is reflected in staff composition, in curriculum, and, indeed, in the opinions of the directors of audiology training programs themselves. Too often there are no relationships between training programs, and frequently audiology training programs have no working relationship with an educational program for the deaf. A more positive feature is that directors of both types of training programs seem aware of the problems that exist, although it is not certain what steps, if any, are being taken to solve these problems.

D. Audiologic Services Offered to the Deaf by Speech and Hearing Facilities

Goals. The basic aim of this portion of the project was to determine the extent to which audiologic services are offered to deaf clients by speech and hearing centers. In other words, what is the level of involvement of speech and hearing facilities in the habilitation or rehabilitation of the deaf? The questionnaire used here (see Appendix C) focused on personnel working with the deaf, the number of deaf clients seen, the types of services provided, and the relationships between speech and hearing facilities and educational programs for deaf children as well as teacher of the deaf training programs.

Sample Surveyed. In September, 1963, a mailing was made from ASHA's National Office to all facilities in the United States offering, or possibly offering, speech and hearing services. The purpose of the mailing was first, to alert people to a series of regional meetings of ASHA's Professional Services Board and second, to establish a roster of clinical facilities in the United States.

A total of 476 postcard replies were received. These were divided into two groups. The first group of facilities (N=357) had titles that suggested the facilities provided speech and/or hearing services. The questionnaire was sent to a random 50 percent sample of this group or to 178 facilities. The second group of facilities (N=119) had titles that made it uncertain if the facilities provided speech and hearing services. All of this group received questionnaires.

The total number of questionnaires mailed was 297 and the total number of usable responses received was 206, representing a 69 percent return. Of these 206, 87 (42%) indicated that they did not offer services to the deaf and 119 (58%) replied that they did offer services.

Several points should be noted here. First, we were interested in those facilities offering services to deaf clients. In a few instances, respondents indicated that although they offered services, they did not actually provide services. In these cases, it seemed that, for one reason or another, deaf individuals did not utilize whatever services were available. Second, for the purposes of the study, a deaf individual was defined as a person for whom vision is the primary avenue of communication. This definition is not the most ideal one, but the Executive Committee, after considerable discussion, felt it was the least controversial and most readily understood definition that was available. Finally, the data presented below should be viewed as suggestive rather than definitive. The sample is small (although hopefully representative) and any generalizations to the population must be considered tentative.

Results. Table 8 shows the number of facilities either offering, or not offering, services to deaf clients, broken down by the type of facility. The largest category of respondents was the colleges and universities (N=68); of these facilities, 60 percent offer services to the deaf while 40 percent do not. Not unexpected are the findings that (a) a high percentage (81%) of community centers offer services to deaf clients, and (b) a low percentage of elementary or secondary school speech and hearing programs (17%) offer services to deaf children, at least as deafness was defined for the project.

Table 9 shows the reasons for not offering services to the deaf.[5] Not shown is that about one-half of the academic programs indicated that the reason for not offering services was either that

[5] *The "reasons" for not offering services were derived from the narrative provided by respondents in response to the request that they explain why they do not offer services.*

Table 8. Facilities offering or not offering services to deaf clients by type of facility.

Type of Facility	Services Offered (No. Facilities)	Services Not Offered (No. Facilities)
College or university	41	27
Community speech and/or hearing clinic	21	5
Veterans Administration speech and hearing clinic	4	2
Private speech and/or hearing clinic	11	7
Elementary or secondary school speech and/or hearing programs[a]	4	20
Hospital clinic[a]	14	7
Rehabilitation center[a]	4	6
Other	18	12
Not reported	2	1
Total	119	87

[a]This category was not listed on the questionnaire. Respondents checked "other" and then wrote a statement describing the facility. These statements were then used to develop the category.

Table 9. Reasons for facilities not offering services to deaf clients.

Reason	Number	Percent
Purpose of clinic does not include services to deaf	20	(23)
Insufficient personnel	14	(16)
Services to deaf provided by another agency or agencies in area	10	(11)
See too few deaf persons to warrant services	8	(09)
Combination(s) of above reasons	24	(28)
Other	7	(08)
No reason given	4	(05)
Total	87	

the purpose of the clinic does not include providing services to the deaf or that they had insufficient personnel to provide services. It is interesting that 14 facilities indicated they had insufficient personnel while 8 facilities apparently had the personnel but not the clients.

The remaining results for this survey are related to those 119 facilities reporting that they offer services to the deaf.

In terms of personnel, 86 (72%) of the 119 facilities offering services do not have an educator of the deaf on their staff, 25 (21%) employ at least one full-time educator, and 8 facilities (7%) indicated that an educator of the deaf was employed on a part-time basis. Interestingly enough, of the 86 facilities not having an educator of the deaf on the staff, only 14 (16%) indicated that they were planning to hire one within the next year or two.

The three major reasons given by the facilities for not employing an educator were: (1) staff audiologists perform teacher of the deaf functions; (2) insufficient caseload of deaf clients to justify hiring a teacher of the deaf, and (3) deaf clients are referred to other facilities.

The total number of teachers of the deaf on the staff of the 33 speech and hearing facilities employing teachers was 67, including 51 full-time teachers and 16 part-time teachers. Nearly half of the teachers (48%) have a master's degree as their highest academic degree while an additional 36 percent have only a bachelor's degree. The majority of the teachers (55%) obtained their degree prior to 1959. Of the 67 teachers, 36 had some type of certification as a teacher of the deaf but 10 had no certification at all, and 11 more had only ASHA certification. These 21 teachers, representing about one-third of the teachers employed in speech and hearing facilities, may not be fully qualified as teachers of the deaf, at least in terms of the way in which teachers of the deaf were defined in the project (that is, personnel who have been professionally trained as teachers of the deaf and whose primary professional identification is as a teacher of the deaf). As will be recalled, a similar problem was noted for educators of the deaf employed in audiology training programs. (A sidelight here is that only 13 of the 119 facilities reported that a staff audiologist or speech pathologist was certified by CEASD or held a state license as a teacher of the deaf even though 21 facilities indicated that their staff people performed the functions of a teacher of the deaf.) In brief, then, the findings related to personnel tend to suggest that only a small proportion of speech and hearing facilities offering services to deaf clients employ a teacher of the deaf. The majority of teachers so employed, however, appear to be academically and professionally

qualified for their task. The fact that the most frequent reason given for not employing a teacher was that staff audiologists perform the functions of a teacher of the deaf has, we think, important implications with respect to the quality of the services offered to the deaf as well as implications for interprofessional relationships.

How many deaf clients are being served by speech and hearing facilities? The next section of the questionnaire tried to provide an answer to this question. Table 10 shows the number of hearing handicapped and deaf clients, broken down by three age groups, seen in 1963 at the 119 speech and hearing facilities reporting. Table 10 looks more complicated than it is. For instance, the first line of the table indicates that 40 facilities served only 1 to 9 hearing handicapped clinets, ages 0 to 5; 36 of the 119 facilities saw only 1 to 9 hearing handicapped clients, agest 6 to 16; and 33 facilities saw from 1 to 9 hearing handicapped clients over 16 years of age. A total of 24 facilities served only 1 to 9 hearing handicapped clients (regardless of age) in 1963. The second line of Table 10 shows the same type of analysis for deaf clients.

Several features of Table 10 should be pointed out. First, more than half of the 119 facilities served fewer than 50 deaf clients in 1963. Six facilities, while offering services to the deaf, did not see

Table 10. Number of hearing handicapped (HH) and deaf (D) clients, broken down by three age groups, served by speech and hearing facilities (N=119) in 1963.

Number of Clients	Type of Client	Age Group 0-5 years (No. Facilities)	6-16 years (No. Facilities)	Over 16 years (No. Facilities)	Total (No. Facilities)
1-9	HH	40	36	33	24
	D	47	42	42	46
10-49	HH	19	21	18	29
	D	19	19	19	32
50-99	HH	11	9	6	11
	D	3	5	3	13
100-299	HH	11	14	13	16
	D	4	3	4	5
300 or more	HH	5	14	19	33
	D	0	0	0	5
Not reported	HH	22	14	19	6
	D	28	32	34	12
0	HH	11	11	11	0
	D	18	18	17	6

any deaf clients in any of the age categories. Second, only 8 facilities served 50 or more deaf clients in any one age category. Third, only 5 speech and hearing facilities saw a total of 300 or more deaf clients in 1963, while 18 facilities saw a total of 50 or more deaf clients. Fourth, 18 facilities served no deaf clients 16 years of age or younger, and 17 facilities did not provide services to any deaf client over 16 years of age. Finally, 24 to 29 percent of the facilities failed to report the numbers of deaf clients served in the three age categories. These relatively high percentages are probably due to the difficulty the facilities had in extracting the required data from their records. It should be noted that rough estimates of the actual numbers of clients served in each age category can be obtained by taking the midpoint of the "number of clients" category, multiplying by the number of facilities in the age category and summing over the age category. For example, 47 facilities saw from 1 to 9 deaf clients (midpoint is 5) for a total here of 235 clients. An additional 19 facilities saw from 10 to 49 clients (midpoint is about 30) for a total here of 570 clients, and so forth. It should be repeated that any figures so derived are merely rough estimates.

An attempt was also made to determine how the numbers of hearing handicapped and deaf clients served in 1963 compared to the numbers of clients served in 1961 and 1962. The major finding here is that nearly half of the 119 facilities (45%) indicated that the total number of hearing handicapped clients seen in 1963 was larger than the totals seen in the previous two years while only one-third of the facilities reported that the total number of deaf clients seen in 1963 was larger than the totals seen in 1961 or 1962. An additional 43 percent of the facilities reported that the total number of deaf clients seen in 1963 was about the same as the totals seen in the two previous years.

Even though the data are limited, there is some evidence to suggest that speech and hearing facilities are not being utilized maximally in providing services to the deaf. Many facilities apparently see few deaf clients and there does not seem to be a pronounced trend for these facilities to serve an increasing number of deaf clients. Fortunately, the number of deaf clients served appears not to be decreasing.

The next section of the questionnaire dealt with services. What kinds of services are provided to the deaf and who provides them? The question dealing with kinds of services asked for the percentage of deaf clients, in each of the three age categories, who received a particular service in 1963 (see Appendix C, question 15). The results shown in Table 11, however, merely indicate the number of facilities providing a specific service to a specific age

group. The large percentage of facilities that failed to respond to various portions of this question makes a more detailed breakdown meaningless. The reasons for the poor response rate are unclear. Some of the data suggest that respondents left portions blank (rather than writing in zero or none) to indicate that they did not provide a specific service to a specific age group. Rather than assuming that this was the case, we interpreted a blank or a dash to mean a "no response." This, unfortunately, reduced the value of the data.

There are, however, some interesting facets to Table 11. As might be expected, the most frequently provided service to deaf clients is audiologic evaluations. Fifty-one facilities (43 percent of the total) indicated that they provided audiologic evaluations to deaf youngsters (ages 0 to 5), 46 facilities provided evaluations to older deaf children (6 to 16 years), and 43 facilities tested deaf clients over the age of 16. The next most frequently provided service is client or parent counseling. The number of facilities providing this service ranged from 35 to 53. The next three most frequently provided services are auditory training, speechreading, and hearing aid evaluations. Thirty-two facilities (27%) reported that they provided preschool classes for deaf children ages 0 to 5, and between 15 and 22 percent of the facilities provided educational guidance services to deaf clients. Finally, few speech and hearing facilities provide training in manual communication or social activities for the deaf.

Table 12 shows the type of staff person usually responsible for providing the various services shown in Table 11 (manual communication and social activities have been eliminated because so few speech and hearing facilities offer these services). Most surprising is the finding that auditory training and speechreading—two services usually thought to be the responsibility of audiologists, at least in speech and hearing facilities—are most frequently provided by speech pathologists. One possible explanation for this finding is that we are dealing with an atypical sample. Yet audiologic evaluations and hearing aid evaluations are, as would be expected, provided by audiologists. It may be that the term "auditory training" was misinterpreted by the respondents, but it seems unlikely that the term "speechreading" was also misinterpreted. Perhaps the most likely explanation is that audiologists have become so involved with both audiologic evaluations and hearing aid selection that they have relinquished their traditional responsibility for auditory training and speechreading. If this is the case, and certainly more data are necessary before the hypothesis can be validated, then the often heard criticism

Table 11. Number of facilities providing various services to deaf clients in three different age categories.

Service	Age Category		
	0-5 (No. Facilities)	6-16 (No. Facilities)	Over 16 (No. Facilities)
Audiologic evaluations	51	46	43
Auditory training	52	41	35
Speechreading	49	39	38
Speech therapy	47	35	31
Manual communication training	1	1	3
Hearing aid evaluations	41	41	37
Client or parent counseling	53	45	35
Social activities	12	8	11
Psychologic evaluations	25	18	15
Vocational guidance	1	9	20
Educational guidance	23	26	18
Preschool classes	32	4	1

that audiologists are too "test oriented" may have some justification. It may also be that improved interprofessional relationships can result if audiologists develop greater insight about their actual role today (diagnosticians) as opposed to their idealized role or their role a decade ago (diagnosticians plus rehabilitation specialists).

Another interesting finding shown in Table 12 is that audiologists are somewhat less frequently involved in client or parent counseling than speech pathologists and are not significantly involved in

Table 12. Type of staff person usually responsible for providing services in speech and hearing facilities.

Type of Service	Type of Staff Person Responsible	Number of Facilities[a]
Audiologic evaluation	Audiologist	71
Auditory training	Speech Pathologist	37
	Audiologist	20
	Sp. Path. and Audiol.	17
Speechreading	Speech Pathologist	39
	Audiologist	16
	Sp. Path. and Audiol.	12
Speech therapy	Speech Pathologist	66
Hearing aid evaluations	Audiologist	67
Client or parent counseling	Audiol. and Sp. Path.	23
	Speech Pathologist	22
	Audiologist	17
Psychologic evaluations	Other[b]	53
	Not reported	45
Vocational guidance	Not reported	75
Educational guidance	Not reported	48
	Other[b]	20
Pre-school classes	Not reported	64

[a]The number of facilities listed for each service is less than the number indicating the type of staff person responsible for a particular service. For brevity, only the most frequent responses (the total of which constitutes more than 50 percent of the overall sample) are given.

[b]Includes psychologists, guidance counselors, and so forth.

educational guidance. This, again, says something about the role of the audiologist in the speech and hearing facilities surveyed. If speech pathologists are indeed counseling deaf clients and the parents of deaf children, one would hope that they are qualified for such a task by virtue of their academic training and professional experience. Data were not collected on this point so one can be optimistic.

The final question related to services was as follows: "Of the services listed (see Tables 11 and 12), which TWO are the MOST FREQUENTLY requested by educational programs for the deaf?" As might be expected, audiologic evaluations were ranked first and hearing aid evaluations were ranked second.

The last section of the questionnaire dealt with relationships. We wanted to know here if speech and hearing facilities have some type of working relationship with educational programs for the deaf and/or with programs that train teachers of the deaf. The nature of the relationships was also explored. In an earlier question (see Appendix C, question 14), we had tried to determine what percentage of deaf clients referred to the facilities were referred by educational programs for the deaf. Fifty-two of the 119 facilities (44%) indicated that zero percent of their deaf clients were referred by an educational program. Twenty-three facilities reported that from 1 to 19 percent of their deaf clients were referred by such programs and 20 facilities (16%) reported that over half of their deaf clients were referred to them by educational programs for the deaf. The remarkable finding, of course, is that 52 facilities were not receiving referrals from educational programs.

Slightly more than half of the facilities (N=61) indicated they have some type of working relationship with an educational program for deaf children. Table 13 shows the types of relationships and the number of facilities for each "relationship" category. Aside from the "other" category, the most frequent types of working relationships between speech and hearing facilities and educational programs are (a) planned observations by the staff of the facility at a school or class for deaf children, and (b) joint participation in case conferences. Although these were the two most frequent relationships (again excluding the "other" category), less than half of the facilities reported them. Only six facilities reported that teachers had staff appointments at the clinic. It should be noted that most of the 61 facilities reported having more than one type of working relationship.

A total of 33 facilities (28%) indicated that they have some type of working relationship with a college or university that trains teachers of the deaf. The most frequent relationship (N=18) was planned observations at the facility by prospective teachers of the deaf. The next most frequent relationship (N=15) was joint conferences between the staff of the speech and hearing clinic and the staff of the training institution. Again, most of the facilities reported having more than one type of working relationship with a training institution. It seems that, in general, relationships between speech and hearing facilities and deaf education programs, and particularly teacher training programs, are not too frequent.

Table 13. Types of working relationships between speech and hearing facilities and educational programs for the deaf (N=61).

Type of Relationship	Number of Facilities[a]
Planned observations by facility staff at school or class for deaf	28
Planned observations at clinic by staff of school or class for deaf	12
Members of facility serve as consultants or have staff appointments at school for deaf	21
Teachers of the deaf from educational program for deaf have staff appointments at clinic	6
Joint participation in case conferences	26
Other[b]	29

[a]Total number of facilities is greater than 61 because facilities could indicate more than one type of relationship.

[b]Consists primarily of facilities that indicated they perform audiologic evaluations for a deaf education program.

Finally, respondents were asked to describe any steps they would recommend for improving relationships between clinics and educational programs for the deaf. Here is a sampling of the comments received. The comments are not necessarily representative but they are provocative. One director stated: "University speech and hearing clinics that do not offer courses in deaf education should instruct students in the realization there is a difference between speech therapy and deaf education. Too often speech therapists try to work with deaf children with disastrous results." Another had this to say: "Greater acceptance of the training needs of the deaf, the severely hard of hearing, and the child with brain damage; many such children tend to be shunted aside by the schools for the deaf. Often, speech and hearing clinics are the only training mediums available to such children, although they are inadequately designed or equipped to treat them properly." This same respondent went on to say that there should be greater appreciation by schools for the deaf of those research advances being made by speech and hearing centers that may help improve pedagogical methods. Another director wrote: "The urgent need for special training in techniques of teaching the deaf suggests

that those centers who have no well-trained person are performing a gross disservice to deaf children." Another director suggested three approaches to improving relationships: "(1) lectures to teachers of the deaf re audiological evaluation, and so on; (2) periodic observations by teachers of the deaf in audiological clinics; and (3) some training in the psychology of deafness for audiologists. This would include not only tests employed or basic interpretation but also some observation and training re the language problems of the deaf." Still another respondent had these steps to suggest: "(1) assignment of teacher of the deaf to the speech and hearing center and assignment of the audiologist to school for the deaf. Regular exchange visits; (2) joint conference with participation by teachers of the deaf and representatives of the speech and hearing clinic; and (3) improved and expanded courses of instruction in education of the deaf in training program for speech and hearing personnel. Heavier concentration in audiology and speech pathology in training programs for teachers of the deaf." The final comment seems particularly appropriate: "We find our working relationship satisfactory, but we also note that a good relationship doesn't occur by itself, nor is it maintained without effort. A major ingredient in the 'recipe', as we see it, is frequent phone calls and personal visits on our part concerning individual clients in order to supplement our written reports and in order to obtain feedback information on children in the schools whom we have seen previously at the clinic. We also find it desirable to supplement these efforts by informal meetings between staff members simply for shop talk."

Summary. Although the data reported above are only suggestive, some trends are discernible. There is a real question about the adequacy of the services provided to the deaf by speech and hearing facilities. Most facilities do not employ a teacher of the deaf, the audiologist's role is restricted frequently to audiologic evaluations and hearing aid evaluations, and speech pathologists seem to have become involved in areas traditionally the responsibility of audiologists. Speech and hearing facilities do not seem to be utilized fully by educational programs for the deaf. Generally speaking, the facilities surveyed see few deaf clients and of those deaf clients seen, only a small proportion are referred by educational programs for the deaf. Finally, speech and hearing facilities have relatively infrequent contacts with educational programs and in only a few instances are there working relationships between a speech and hearing facility and a teacher of the deaf training program.

E. Audiological Services in Educational Programs for the Deaf

Goals. What is the nature and scope of audiologic services provided in educational programs for the deaf? The questionnaire shown in Appendix D was designed to provide an answer to this question. In addition, answers were sought to such questions as: To what extent are audiologists involved in educational programs? What services are provided by audiologists? If audiologists are not involved in educational programs, where do these programs obtain audiologic services and what types of services are obtained? What relationships exist between educational programs for the deaf and audiology training programs? It was anticipated that the answers to some or all of these questions would provide a meaningful picture of the status of audiologic services in educational programs.

Sample Surveyed. The directory issue of the 1963 Annals of the Deaf was used as the source for obtaining the names and addresses of the programs that would be surveyed. Questionnaires were sent to (a) all public residential schools listed in the directory, (b) all denominational and private schools and classes listed, and (c) a random 50 percent sample of the day class programs listed in the directory. The total number surveyed was 272. A total of 160 usable returns were received, representing a 59 percent response.

Description of Questionnaire. A brief explanatory note about the questionnaire is necessary. As will be noted from an inspection of Appendix D, the questionnaire contained two forms, designated Form A and Form B. The first five questions were answered by all respondents. The response to question 5, however, determined which respondents would complete Form A and which Form B. Question 5 was as follows: "Does the facility for which you are reporting employ one or more audiologists on at least a half-time basis?" If the respondent answered "No," he was instructed to complete Form A. If he answered "Yes," he completed Form B. Although roughly the same areas were covered on both forms, Form A was much shorter and less detailed. The results obtained for each form are treated separately below, except for initial descriptive data.

Results. Table 14 shows, by type of facility, the 115 facilities not having an audiologist on the staff and the 45 facilities having an audiologist. The finding that only 45 facilities (28%) employ an audiologist is not too surprising in view of the fact that over half of the reporting facilities are small day schools or classes. Of the 48 public or private residential schools, however, 63 percent employ an audiologist. Audiologists are employed in only 15 percent of the day schools and classes. Type of facility appears to

have some influence on whether or not an audiologist is employed by the facility.

Another factor that seems to determine the presence or absence of an audiologist is the number of students enrolled in the program. (This factor, of course, is not unrelated to the type of facility.) For example, of those programs with fewer than 100 deaf students enrolled (N=91), only 16 (18%) have an audiologist. Of the 62 programs with 100 or more deaf students enrolled, 27 (44%) employ an audiologist.

The same trend is apparent with respect to the total number of students (hearing handicapped plus deaf) enrolled in a program. In this case, of the 87 programs with fewer than 100 students, only 13 (15%) have an audiologist while for those 70 programs with an enrollment of 100 or more students, 32 (46%) have an audiologist.

Table 14. Facilities employing or not employing an audiologist by type of facility.

Type of Facility	No Audiologist (No. Facilities)	Audiologist (No. Facilities)
Public residential school	24	13
Private residential school	6	5
Public or private day school	37	6
Public or private day class	33	6
Combinations of above	0	5
Other	13	9
Not reported	2	1
Total	115	45

As might be expected from the above data, the size of the full-time educational staff is also related to the presence or absence of an audiologist. For those programs having fewer than 10 staff members (N=75), only 10, or 13%, have an audiologist on the staff. Of the 80 facilities having 10 or more staff members, 31 (39%) employ an audiologist on at least a half-time basis.

That the size of the program plays an important role in determining whether or not a facility will employ an audiologist is reflected in the findings shown in Table 15. This table shows the reasons given by the facilities for not having an audiologist. The most frequent reason, by far, is that the program is too small to justify hiring an audiologist. The lack of funds and the availability

of audiologic services in the community were the second and third most frequent reasons checked. Less than 20 percent of the facilities checked one of the remaining four choices shown in Table 15. It is important to note that only 10 percent of the facilities indicated that they had any immediate plans to hire an audiologist.

Since these 115 facilities do not have a staff audiologist, where do they obtain audiologic services? The next table (Table 16) provides the answer to this question. Most of the facilities (82 percent of the total) utilized more than one referral source to obtain audiologic services. As indicated in Table 16, the referral sources used most frequently by deaf education programs are college and university speech and hearing clinics and otolaryngologists in private practice (69 percent of the respondents checked these referral sources). Less than half of the programs utilize the services of community or private speech and hearing clinics although about

Table 15. Reasons given by facilities for not employing an audiologist.

Reason	Number of Facilities
Program too small to justify hiring an audiologist	35
No funds available	16
Would duplicate services currently available in the community	13
Present staff adequate to meet needs	5
Difficult to obtain qualified audiologist	2
Not possible because of the administrative framework in which we operate	7
Other	7
Not reported or more than one answer[a]	30
Total	115

[a]Respondents were asked to check the one most important reason for not employing an audiologist. A number of respondents checked two reasons, thus invalidating their response to this question.

one-fourth of the programs indicated that an audiologist in private practice served as a referral source.[6]

Table 17 shows the types of services provided by the educational program and/or the referral facility. The services most frequently provided by the educational program itself are speechreading (93 or 81 percent of all the programs indicated they provided speechreading), auditory training (77%), and speech therapy (70%). It is interesting that 46 programs (40%) provide psychological evaluations. The services most often provided by an outside source are otologic diagnosis and/or treatment (70 percent of the programs

Table 16. Referral sources used by deaf education programs to obtain audiologic services.

Referral Source	Number of Facilities[a]
College or university speech and hearing clinic	79
Community speech and/or hearing clinic	48
Private speech and hearing clinic	33
Audiologist in private practice	30
Ear, nose, and throat physician in private practice	79
Hospital clinic[b]	17
Vocational rehabilitation or public health centers[b]	12
Other	28

[a]Total number of facilities is greater than 115 because respondents were allowed to check more than one referral source.

[b]This category was not listed on the questionnaire but was arrived at by inspecting the responses in the "Other" category.

[6]*It should be noted that the speech and hearing facilities used by the 115 educational programs are not necessarily the same as those included in our survey of speech and hearing facilities (see Section D). Two examples should illustrate this point. First, nearly one-fourth of the educational programs reported using the services of an audiologist in private practice; this was not one of the "facility" categories used earlier. Second, a relatively large number of facilities reported that they provided auditory training and speechreading to deaf clients (see Table 11), but only a small number of educational programs indicated that they used a speech and hearing facility to obtain these services (see Table 17).*

Table 17. Types of services provided by educational programs for the deaf and/or their referral facilities (N=115).[a]

Type of Service	Service Provided By: Own Program	Referral Facility	Program and Facility	Service Not Provided
Audiologic evaluations	9	63	37	3
Otologic diagnosis and/or treatment	4	80	13	10
Auditory training	88	4	21	0
Speechreading	93	3	16	0
Speech therapy	81	3	16	6
Manual communication training	22	0	1	63
Hearing aid evaluations	1	70	28	11
Client or parent counseling	48	10	51	1
Social activities	68	5	14	18
Psychological evaluations	46	24	34	6
Vocational guidance	48	7	23	26
Educational guidance	78	4	25	2
Preschool classes	61	10	22	13

[a]Row totals do not add up to 115 because of respondents who failed to answer one or more items.

indicated that they obtained this service from a referral facility), hearing aid evaluations (61%), and audiologic evaluations (55%). Despite the absence of audiologic personnel, 46 programs indicated that they provided some audiologic evaluation. Client or parent counseling and psychological evaluations are the two services most frequently provided by the educational program plus a referral facility. The service least frequently provided by the educational

program itself is hearing aid evaluations while the service most frequently not provided at all is training in manual communication. This, by the way, is the item that received the highest percentage of non-respondents.

Respondents were also asked to indicate which one of the audiologic services obtained from a referral facility they considered most essential to their total educational program. Of those responding to this question and answering the question properly (N=69), 44 (64%) indicated that audiologic evaluations were the most essential service. Only seven respondents reported that hearing aid evaluations were most essential. This is not to say that hearing aid evaluations were considered unessential; only that they were considered less important than audiologic evaluations.

Before proceeding to a presentation of the results of the open-ended questions concerning the strengths and weaknesses of the audiologic services received by the educational programs, it is necessary to present data that are somewhat unrelated to services but that are important nevertheless. An attempt was made to determine if audiologic evaluations and otologic examinations were required before a student could be admitted to the educational program. As might be expected, the majority of the programs (63%) required both. An additional 20 programs required an audiologic evaluation but not an otologic examination while the reverse was true for only six programs. A total of 11 programs did not require either an audiologic evaluation or an otologic examination.

If a respondent indicated that his program required an audiologic evaluation, he was asked to indicate the tests usually included in the evaluation. Table 18 shows the most frequent tests or test combinations used (an evaluation seldom consisted of just one test). In a separate analysis that is not tabled here, it was determined that the tests used most frequently, either separately or in combination with other tests, were the pure tone air-conduction test (87 programs indicated that this test was used), pure tone bone-conduction test (72), and speech audiometry (61). Tuning fork tests were infrequently used.

To return to the services obtained by the 115 educational programs, we tried to assess the opinions of the program directors concerning the strengths and weaknesses of the audiologic services provided them (see Appendix D, question 9). In one sense, it is unfortunate that an open-ended question was used because of the difficulties involved in analyzing the responses. On the other hand, the form of the question gave the respondents a greater opportunity to express themselves about the strengths and weaknesses of the services received. In order to capture the flavor of these responses, samples of the comments received are used here to illustrate some of the major points made by the respondents.

Table 18. Audiologic tests or test combinations used in evaluating students prior to their admission to the deaf education program.

Tests or Test Combinations	Number of Programs
Pure tone air- and bone-conduction, speech audiometry, and special tests	21
Pure tone air- and bone-conduction, and speech audiometry	15
Pure tone air- and bone-conduction	9
Pure tone air-conduction	7
Pure tone air- and bone-conduction, speech audiometry, tuning fork tests, and special tests	7
Other combinations of tests[a]	34
Not reported[b]	22
Total	115

[a]None of the other combinations of tests (for example, pure tone air-conduction plus speech audiometry) was reported by more than five programs.

[b]Includes respondents who indicated that they do not require an audiologic evaluation prior to admitting students to their program.

Cited most frequently—and apparently the major strength of the audiologic services received—was the thoroughness of the audiologic evaluation. Related to this were positive comments about the competency of the audiologic staff, the adequacy of test facilities, and the availability of other professional personnel that could contribute to the overall evaluation procedure. One respondent summed it up this way: "Evaluations and recommendations are made by thoroughly qualified personnel. Evaluations are carefully prepared, sufficiently clear cut and detailed so as to be of the greatest use to the staff of the school. Medical diagnosis is included."

Another strength cited by respondents was the cooperation and communication between the speech and hearing facility and the educational program. For example, a respondent stated: "Excellent cooperation. Teachers go with the child - observe and discuss with the personnel the findings - far more meaningful than just a written report. The written report is then of more value."

The hearing aid evaluation services of the speech and hearing facility were also listed as a strength by several programs. One principal of a program stated that a major strength was: "Excellence of hearing [evaluations] and hearing aid evaluations that supports the educational program. The continuing programs support our teaching of use of residual hearing."

As might be expected, opinions concerning strengths and weaknesses depend, to a very great extent, on the particular experiences of the respondent, on the locale, on the nature of the interpersonal relationships, and so forth. Thus, while some respondents gave positive opinions about certain aspects of the services received, other respondents gave negative opinions about these same aspects of the services they received. One should use considerable caution in generalizing the findings reported here to all speech and hearing facilities or to all educational programs for the deaf.

It is interesting that the most frequently cited weakness of the audiologic services received is that there are significant delays in obtaining appointments at the audiology facility or that the facility functions too slowly, particularly in reporting its findings. Most of the respondents failed to indicate why they were encountering delays, but several did suggest that the audiology facility was overworked and understaffed.

A number of respondents commented negatively about communication between the speech and hearing facility and the educational program. Criticism was also directed at the reports submitted by the speech and hearing clinic to the educational program. With respect to the former, one respondent had this to say: "Lack of communication between the teaching staff and the staff of the speech and hearing clinic gives rise to many unanswered questions re hearing or lack of it, as the case might be. Similarly lack of communication means non-interpretation of basic philosophies." Another respondent stated: "There is not enough oral communication between the teaching staff... and the clinic on subsequent (that is, to the original) diagnosis. This is particularly true in regard to multiple handicapped youngsters...." The same respondent criticized the nature of the audiologic reports: "Although the reports are detailed the terminology is difficult for the average layman to understand. The terminology from the different clinics varies to such an extent that we are not always sure of the diagnosis."

Perhaps a more basic weakness cited by respondents is that audiologists have inadequate experience with, or knowledge about, the deaf, and particularly young deaf children. Two comments summarize this attitude. The first respondent made the following statement: "Speech and hearing clinics are geared to the hard

of hearing and the speech defective but often pose as experts in the areas of deaf education—and are not. Their knowledge of this field is often quite limited. Audiologists should not involve themselves in the area of education of the deaf unless they are well grounded in this field. Neither should doctors." The second respondent commented: "Limited knowledge in conditioning techniques for testing children (particularly deaf or language handicapped—organically damaged).... After completing limited course work only in audiology, students consider themselves and are considered diagnosticians and therapists with deaf, aphasic and hard of hearing. They perform all therapy though are offered no course work in deaf education, diagnostic procedures, normal or atypical language development."

The final criticism of audiology services that was noted with some degree of frequency is related to the counseling activities of audiologists, particularly as these activities involve educational recommendations or recommendations concerning amplification. With respect to educational recommendations, the following comments are typical: "There is no direct referral of the children that the agency [clinic] sends to us—so sometimes children flounder in incorrect school placement for a year or so and then come to us with confusions that are difficult to eradicate." Another respondent said: "Agencies can be out of touch re: school and group situations thus making educational recommendations which are not always feasible....Sometimes make too specific referrals to particular schools on basis of hearsay rather than state type of facility needed."

The next two comments serve to illustrate some problems with respect to recommendations about amplification. One respondent declared: "Parents and others are often misled by overemphasis on the value of amplification and its effect on educational progress and social adjustment. The results to be expected from amplification are often exaggerated." The other respondent expressed dissatisfaction in the following way: "Poor hearing aid evaluations for children. Usually recommend mild gain aids for deaf children so as not to err in providing too much amplification. Results in dissatisfied children and parents after investment in aid."

To summarize briefly, the strengths and weaknesses of the audiologic services received by deaf education programs appear to fall into several discrete and several overlapping categories. Cited as strengths were the thoroughness of the audiologic evaluation including hearing aid evaluations, the competency of audiologic personnel, the adequacy of the facilities, and the good communication and cooperation between the speech and hearing

clinic and the educational program. The most frequently cited weaknesses were delays in receiving appointments and reports, poor communication and/or reports, the lack of experience with or knowledge about deaf children, and counseling activities related to educational placement or amplification.

The final two questions for those individuals filling in Form A were: "What is the ONE most important contribution that an audiology program can make to an education of the deaf program" and "In what important way (if any) has audiology not met its responsibility to the education of the deaf?"

The contribution noted most frequently was related to the use of audiologic information in educational placement or in determining the potential of the deaf child. Several comments illustrate this point. The principal of a large public day school for the deaf said this: "Interpretation of audiograms in such a way that the classroom teacher would have more and better understanding of hearing potentials and limitations with or without amplification." The headmaster of a private residential school for the deaf put it this way: "To provide the school with enough thorough, detailed information concerning a child in order to help the school in the placement of the child in school classes—curricular - oral - etc...."

The second most frequently mentioned contribution that audiology could make to a deaf education program was in terms of audiologic evaluations, with emphasis on differential diagnosis. Two brief comments illustrate this point. First, one respondent stated: "Provide good differential diagnoses as well as information re: perceptual assets and liabilities." The second respondent, reporting for a preschool deaf program, said: "In our work, we find that the most important contribution that an audiology program provides is in establishing a definite diagnosis, particularly in those cases such as aphasia or emotional disturbance where differential diagnosis is difficult."

Comments related to the way audiology has not met its responsibility to the education of the deaf fall into one major category and can be summarized as follows: Audiologists have inadequate experience or knowledge about deaf individuals (this criticism has been noted before) and, as a result, audiologists do not understand the language and educational problems caused by deafness. Again, several of the comments made by respondents are helpful in illustrating the point as well as revealing some fairly negative attitudes about audiology. A superintendent of a public residential school wrote this: "Audiology has always been, and still is, too far from the classroom. Also the audiologist generally knows too little about educational methods and yet he

prescribes to parents. He has too often confused parents, caused waste of time in the education of a deaf child, and has set himself up as an educator rather than a technician. He should be an educational audiologist and not a clinical audiologist." Another superintendent expressed it a little differently and concludes on a more positive note: "Audiologists—not audiology—frequently lack experience and insights into the educational and communicative tragedy precipitated by deafness. Contact and experience should remedy this shortcoming." This concludes the presentation of results for those 115 education of the deaf programs with no staff audiologist.

The next section presents the results for those 45 programs that employ an audiologist, at least on a half-time basis. These respondents completed Form B of the questionnaire (see Appendix D). As was noted with respect to some of the previous data, considerable caution should be exercised in generalizing the results from a relatively small sample (in this case, 45) to the entire population.

A total of 69 audiologists are employed by the 45 education programs. About three-fourths of the audiologists have a master's degree as their highest academic degree while 12 percent have a bachelor's degree and 13 percent have a doctorate. The majority of the audiologists (55%) obtained their highest academic degree prior to 1959 while an additional 23 percent obtained their degree in 1963 or in early 1964. Of the 69 audiologists, about half have some type of ASHA certification in audiology while the other half do not hold such certification. The latter finding raises some question about the academic and professional qualifications of some of the "audiologists" employed in educational programs. An attempt was made to determine the contract length and annual salary of the audiologists. Most of the audiologists have 10- to 12-month contracts with the educational program. Not all respondents reported salary data but those data that were reported indicated that 41 percent of the audiologists earn between $5000 and $8000 per year, 35 percent earn between $8000 and $10,000, and the remainder earn over $10,000 per year.

Respondents were asked to indicate the type of staff person usually responsible for providing various services for the educational program. As might be expected, the principal responsibilities of audiologists working in deaf education programs were (a) audiologic evaluations (93 percent of the programs reported that audiologists were usually responsible for providing this service) and (b) hearing aid evaluations (82%). Auditory training, speechreading, and speech therapy were usually the responsibility of the teaching staff. A majority of the programs (56%) reported

that an audiologist served to provide in-service training in audiology for the teaching staff, but 11 programs (24%) reported that this service was not offered at all in their program, and another 6 programs indicated that someone other than the staff audiologist provided in-service training in audiology. As might be anticipated, the audiologic service considered most essential to the total educational program was audiologic evaluations. Of the 36 respondents answering this question, 28 (78%) indicated that this was their choice.

The next section of Form B was designed to obtain information about such aspects of the audiologic program as the number and adequacy of audiometric test rooms, audiometric equipment, special diagnostic equipment, and calibration procedures. In terms of test rooms, the 45 facilities reported having a total of 86 test rooms, with 80 percent having either one or two audiometric suites. Of the 86 rooms, 72 (84%) were reported to be sound treated. The great majority of the respondents (92 percent) reported that their test rooms were adequate or very adequate.

Unfortunately, the question dealing with audiometers asked for rather specific information that the respondents found difficult to provide. In other words, the question was not a very good one. All that could be salvaged from the responses to this question was the fact that each facility had, on the average, three audiometers; and that about 40 percent of the audiometers were purchased prior to 1960 while another 40 percent were purchased in 1960 or later. No information was provided about the remaining audiometers.

In terms of special audiometric equipment, about 50 percent of the facilities reported having galvanic skin response (GSR) audiometers, 40 percent had delayed auditory feedback equipment, and 20 percent had a Bekesy audiometer. While 29 facilities reported having one or more pieces of special equipment, 14 facilities indicated they had no special audiometric equipment. It is interesting to note that 3 programs indicated that they had electronic computers that were being used for EEG audiometry.

As far as audiometer calibration is concerned, 15 (33%) facilities reported that they checked the calibration of their equipment every week or every month. The remainder reported less frequent calibration checks; 13 programs reported that they checked calibration once a year. A relatively large percentage of the facilities (41%) use an artificial ear or other electronic equipment to check the calibration of their equipment. A slightly higher percentage (43%) reported that they either returned the audiometers to the manufacturer or utilized local service resources. An additional 8 facilities check calibration by means of loudness matching procedures or by testing normal and/or abnormal ears.

Respondents were also asked to indicate the one procedure used most frequently to maintain and/or repair their audiometric equipment. While 14 programs reported using the services of an electronic technician or a local electronics shop, 10 programs indicated that they returned the equipment to the manufacturer. Only one program reported using the services of a college or university, and 2 programs reported using the facilities of a local hearing aid dealer.

The last question dealing with equipment attempted to determine the priorities placed on various equipment items (see Table 19), if funds were available for these items. There was an extremely small difference between the priority given to the purchase of special diagnostic equipment and that given to the purchase of more modern audiometers, ranked first and second, respectively. The fact that improving the test environment was given a low priority corroborates, to some extent, the earlier finding related to the respondents' opinions about the adequacy of their audiometric test facilities.

The last section of Form B dealt primarily with needs and relationships but there were also several questions on research activities and admission policies (the questions on admission policies were the same questions that were used on Form A). In terms of research, 17 respondents indicated that some type of research was being conducted by their audiology staff and briefly described the projects. For example, one respondent indicated that the audiologists in his program were studying evoked responses to auditory stimuli using an average response computer. Another said his staff was working on the development of a scale

Table 19. Rank order of priority given to steps for improving audiometric equipment.

Item	Rank
Purchase of special diagnostic equipment	1
Purchase of more modern audiometers	2
Improve repair and maintenance procedures	3
Purchase special calibration equipment	4
Improve the test environment	5
Other	6

for the measurement of receptive communication skills (lipreading, finger spelling and manual language) through the use of colored motion picture film. A third respondent described a study designed to evaluate "...speech performance and auditory discrimination of severely deaf children (who have worn individual hearing aids consistently since preschool age) as reflected in speech audiometric tests and tape recordings of speech." The majority of the programs, however, indicated that no research was currently being conducted.

As on Form A, respondents were asked to indicate if an audiologic evaluation and otologic examination were required before a student was admitted to their program. Thirty-three respondents (73%) indicated that both examinations were required. An additional 9 programs required an audiologic evaluation but not an otologic examination, and 2 programs required neither (there was one no-response to the question).

The audiologic evaluation seldom consisted of a single test. Rather, combinations of tests were used with the most frequent (N = 12) consisting of pure tone air-conduction and bone-conduction audiometry plus speech audiometry. The two next most frequent combinations consisted of (a) pure tone air-conduction and bone-conduction audiometry (N = 6), and (b) pure tone air- and bone-conduction, speech audiometry, and special tests (N = 6). The remaining programs used other combinations of tests in their audiologic evaluation.

Of the last four questions, two were devoted to priorities and two to relationships. Question 21 was worded in the following way: "If necessary funds were available to you, what priority would you give to the following items? PLEASE RANK THE TOP THREE ITEMS using 1 to indicate the HIGHEST priority, 2 for the NEXT highest, and 3 for the THIRD highest priority." As can be seen from Table 20, the items used were related primarily to the overall educational program with only one item directly related to audiology. As can also be seen, two items were tied for top priority: hire more teachers of the deaf and raise staff salaries. Expanding the audiology program was ranked fifth in importance, barely edging the two items that were tied for sixth. It seems that in terms of the overall program, needs unrelated to the audiology program have highest priority. This, perhaps, is understandable in that the programs have adequate audiometric equipment, have good test facilities, and have staff audiologists. It is the overall adequacy of these aspects of the audiologic program that probably accounts for the findings shown in Table 21.

Table 21 shows the priorities given to various steps designed to improve or expand the audiology program, assuming again that

Table 20. Rank order of priority given to steps for improving or expanding overall program (N=45).

Item	Rank
Hire more teachers of the deaf	1.5
Raise staff salaries	1.5
Expand facilities	3
Hire specialists such as psychologists, social workers, etc.	4
Expand audiology program	5
Hire more supervisory personnel	6.5
Improve physical plant	6.5
Increase administrative staff	8

Table 21. Rank order of priority given to steps for improving or expanding audiology program (N=45).

Item	Rank
Develop or expand an audiological research program	1
Expand audiological services	2
Hire more audiologists	3
Purchase special diagnostic equipment such as a Bekesy audiometer, SISI unit, etc.	4
Raise salaries of current audiology staff	5
Purchase new pure tone and/or speech audiometric equipment	6
Purchase additional consultative services	7
Build or purchase additional test facilities	8

funds were available. Interestingly enough, developing or expanding an audiologic research program received the highest priority, perhaps because the majority of the programs were not involved in any audiologic research at the time the survey was conducted. The expansion of audiologic services and hiring more audiologists—two related items—were ranked second and third, respectively. It should be pointed out that while raising staff salaries was tied for top priority when related to the overall educational program (see Table 20), raising the salaries of the audiology staff was ranked fifth. The low priority given to building or purchasing test facilities again reflects the apparent satisfaction of the respondents with their audiometric test facilities. It is important to point out that the majority of the respondents (53%) indicated that they had no immediate plans for expanding or improving their present audiology program.

The questions dealing with relationships were designed to determine if the educational programs had a working relationship with a speech and hearing center and/or with a college or university audiology training program as well as the nature of these relationships. (These questions are very similar to the ones asked of speech and hearing facilities concerning relationships with educational programs for the deaf and teacher training programs.) Of the respondents, 84 percent indicated they had a working relationship with a speech and hearing center (only 51 percent of the speech and hearing facilities reported a working relationship with an educational program for the deaf and 64 percent of the audiology training programs reported such a relationship). Most of the respondents reporting that they did have a working relationship with a speech and hearing facility reported having more than one type of relationship. The most frequent single relationship, however, was that audiology staff members referred students to a speech and hearing center for special audiologic evaluation. This finding may be related to the absence of special diagnostic equipment in the educational program, to the qualifications of the staff audiologists, or to the complexity of the problems (auditory as well as other problems) presented by students. A total of 20 programs indicated that joint conferences were held between the audiology staff and the speech and hearing center staff while 14 programs reported that members of their staff serve as consultants to a speech and hearing center (the reverse was true in 11 instances). Only 9 programs indicated that there was joint participation in research projects. This last finding, combined with the priority respondents gave to developing or expanding an audiologic research program, suggests that cooperative research efforts may be one very good way to strengthen the

relationships between speech and hearing facilities and deaf education programs.

Twenty-eight (62%) educational programs reported having a working relationship with an audiology training program. Again, most of the programs had more than one type of working relationship but the three most frequent types of relationships were as follows: (1) planned observations by audiology students at the audiology clinic of the deaf education program (19 respondents checked this); (2) staff members of the educational program working toward an advanced degree in audiology or taking audiology courses at the college or university (N = 15); and (3) joint staff conferences (N = 12). Only 6 respondents indicated that college or university personnel serve as consultants to their audiology program and audiology staff members from 9 deaf education programs participate in audiology training programs. Perhaps the important point here is not necessarily the type of relationship but rather that a sizable percentage of educational programs are not being utilized by audiology training programs in any way. This is distressing in view of the often heard criticism that audiologists lack experience with deaf children. What better environment to obtain information, experience, and knowledge about the deaf than in an educational program for the deaf? Yet these programs are not being maximally exploited. (It will be recalled that nearly half of the audiology training programs surveyed—see Chapter III, Section C—did not provide observational opportunities for their students at a school or class for the deaf.)

The last two questions on Form B were the same open-ended questions that were used on Form A, that is, What is the most important contribution that can be made by an audiology program? and How has audiology not met its responsibility to the education of the deaf? The major items cited by the 45 respondents with staff audiologists are essentially the same as those given by individuals who completed Form A. The majority of the 45 respondents indicated that the most important contribution was the audiologic evaluation and the use of audiologic information in differential diagnosis and/or educational placement. Several comments illustrate this point. An interesting comment from one director was as follows: "Thorough analysis of hearing capacity of children as it relates to his educational needs. This assumes that there will be continuing interaction between audiologist and teacher rather than only one communication at the time of initial assessment." A superintendent of a large private day school said this: "Refinement of diagnosis with increasing number of 'functionally deaf' young children admitted to programs so as to assist teachers in structuring beneficial educational program that will

make greatest use of hearing." Finally, this comment from another superintendent: "Provide adequate audiologic evaluation of each child from which recommendations may be made for admission and educational programs to meet his needs."

There was general agreement that the major problem with audiology vis-a-vis education of the deaf is that audiologists lack knowledge and experience about deaf children and consequently do not understand the educational and language problems caused by deafness. (This is the same point that was made earlier.) Because the comments are similar to those reported earlier, only two comments will be used here to illustrate the point. The Executive Director of a private day school put it this way: "In some training centers audiologists have had no opportunity to observe the profoundly deaf child in either clinical or educational setting. With little knowledge of, or experience with, the problems and requirements of the profoundly deaf child, it has been difficult for some audiologists to meet their responsibilities to the education of the deaf." Another statement, somewhat extreme but perhaps reflecting more than one person's opinion, was as follows: "Audiologists need to train to become teachers of the deaf before they can work effectively with the deaf. I have yet to meet an audiologist who understands the problem of the deaf."

Summary. A total of 160 education of the deaf programs responded to a questionnaire designed to assess the status of audiologic services available to, or in, such programs. The great majority of the educational programs (N = 115) do not employ an audiologist, apparently because the program is too small to justify having one. As a result, these programs obtain audiologic services from a variety of facilities. The two audiologic services provided most frequently by these referral facilities are audiologic evaluations and hearing aid evaluations with the former service deemed to be the more valuable of the two in terms of its contribution to the total educational program. The majority of the programs require both an audiologic evaluation and an otologic examination prior to admitting students to their program. Positive features of the audiologic services received include the thoroughness of the audiologic evaluations, good hearing aid evaluations, the competency of the audiologists providing the services, and good communication and cooperation between the speech and hearing clinic and the educational program. Among the negative features cited were delays in receiving appointments and reports, lack of experience with or knowledge about deaf children, and counseling activities related to educational placement or amplification. Generally, respondents felt that the greatest contribution that audiology could make to an educational program was in the

use of audiologic information as an aid to differential diagnosis and educational placement. Respondents seemed to agree that audiologists have not fully met their responsibility to the education of the deaf because they have inadequate knowledge and experience with deaf children, and as a result, cannot fully understand the language and educational problems imposed by deafness.

Forty-five programs employ an audiologist. The typical audiologist so employed has a master's degree that was received prior to 1959; he may or may not have ASHA certification in audiology. The audiologist's principal responsibilities are for audiologic evaluations and hearing aid evaluations. While respondents appeared satisfied with their audiometric test facilities, there was some need expressed for purchasing special audiometric equipment and more modern audiometers. Expansion of the audiology program, however, received a much lower priority than steps designed to improve or expand aspects of the overall educational program (for example, employing more teachers or raising staff salaries). As far as improving the audiologic program is concerned, high priority was given to developing or expanding audiologic research and expanding audiologic services. The 45 respondents expressed essentially the same opinions as noted above concerning contributions audiologists have or have not made to the education of the deaf.

F. Training and Attitudes of Teachers of the Deaf and Audiologists

Goals. Up to this point, we have described the training of audiologists and teachers of the deaf as seen by directors of training programs. We have also described the current status of audiologic services to the deaf as reported by directors of speech and hearing centers and administrators of deaf education programs. In this section, we will attempt to describe how the workers--the clinical audiologists and the classroom teachers--view their academic preparation, their interprofessional relationships, and to present their solutions to some of the problems that they see adversely affecting audiologic services to the deaf. This may be the most important survey of all. If improvement in relationships, and ultimately in services, is to occur then it may be that the first steps forward must be taken by those individuals who are directly involved in providing services to deaf children and adults and who are directly involved with one another.

Sample Surveyed. To obtain a sample of audiologists, questionnaires were sent to all individuals listed in the 1963 ASHA Directory as having Advanced Certification in Hearing and to a

random 50 percent sample of the individuals listed in the Directory as having Basic Certification in Hearing. The total number of questionnaires mailed was 356 and the total number of usable questionnaires received was 222, representing a 62 percent return.

Obviously the number of teachers of the deaf is much greater than the number of audiologists. In order to obtain a sample of teachers comparable in size to that of the audiologist sample a random 10 percent sample was drawn from the list of the American Instructors of the Deaf that appeared in the January issue of the 1964 American Annals of the Deaf. Of the 530 questionnaires mailed, 287 usable questionnaires were received, representing a 54 percent return.

It should be pointed out that the two samples differ in at least two respects. First, the sample of audiologists was drawn from a select group consisting of individuals who met certain academic, practicum, and experience requirements as specified by ASHA. The list from which the teacher sample was drawn contained the names of individuals with more varied qualifications. For example, some individuals on the list have no certification, others have CEASD certification, still others have state licenses or certification, others have combinations of certification, and so forth. Initially, some thought was given to restricting the teacher sample to those individuals who have CEASD certification. This would have produced a more homogeneous sample, thus making it more comparable to the sample of audiologists. It was decided, however, that since many teachers do not have CEASD certification and since teachers with CEASD certification are usually found in a particular type of work environment (that is, residential schools), it would be better to use a more heterogeneous sample. Hopefully, this sample would reflect the opinions of all teachers of the deaf. The second point with respect to the samples is that the audiologist sample represents a sizable proportion of all clinically certified audiologists, at least as of 1963. The teacher sample, on the other hand, represents a very small proportion of the 1963 teacher population. As a result, one can be reasonably confident about generalizations related to all audiologists, but generalizations about all teachers have to be made with considerably more caution.

Description of Questionnaire. The same questionnaire (see Appendix E) was used to survey both audiologists and teachers of the deaf. The questionnaire items fall roughly into the following four categories: (1) descriptive information that would identify certain characteristics of the samples; (2) academic and post-degree training; (3) problems and relationships; and (4) contributions that could be made by audiologists to the education of the

deaf and vice-versa. Two questions (questions 2 and 9) were designed so that audiologists answered the first part and teachers answered the second part. Here, then, are the results of the survey dealing with the training and attitudes of teachers of the deaf and audiologists.

Results. The first set of results deals with some characteristics of the samples. Table 22 shows the two samples broken down on the basis of their employment environments. It is not too surprising that there is little overlap in employment environments. The largest number of audiologists is employed in an academic setting while over half of the teachers are employed in residential schools for the deaf. Despite earlier findings that some audiologists are employed in schools for the deaf and some teachers are employed in speech and hearing facilities, the individuals so employed are apparently not included in this survey.

Table 23 shows the two groups broken down on the basis of three variables: (1) highest academic degree; (2) sex; and (3) decade in which born. There are several interesting findings shown

Table 22. Employment environments of audiologists and teachers of the deaf.

Environment	Audiologists		Teachers	
	No.	(%)	No.	(%)
College or university	83	(37)	12	(04)
Community clinic	40	(18)	-	
Medical or hospital center	22	(10)	-	
Veterans Administration clinic	19	(09)	-	
Elementary or secondary school system	8	(04)	-	
Residential school for deaf	8	(04)	152	(53)
Day school for deaf	-		57	(20)
Day class for deaf	2	(01)	30	(10)
Other[a]	40	(18)	36	(13)
Total	222		287	

[a]The "Other" categories are known but are too small to be listed here.

Table 23. Highest academic degree, sex, and age for audiologists and teachers of the deaf.

Variable	Audiologists		Teachers	
	No.	(%)	No.	(%)
Highest Academic Degree				
None	0		22	(08)
Bachelors	5	(02)	134	(47)
Masters	98	(44)	124	(43)
Doctorate	117	(53)	6	(02)
Not reported or other	2	(01)	1	(0)
Total	222		287	
Sex				
Male	162	(73)	76	(26)
Female	59	(27)	211	(74)
Not reported	1	(0)	0	
Total	222		287	
Decade in which Born				
Before 1910	16	(07)	56	(19)
1910 - 1919	55	(25)	59	(21)
1920 - 1929	84	(38)	71	(25)
1930 - 1939	65	(29)	76	(26)
1940 and later	0		21	(07)
Not reported	2	(01)	4	(01)
Total	222		287	

in Table 23, some of which may be contributing to interprofessional problems. In terms of highest academic degree, nearly all of the audiologists (97%) have either a master's degree or a doctorate degree. For the teachers, the largest single category is the bachelor's degree category which comprises 47 percent of the teacher sample. Only 2 percent of the teachers have a doctorate and 8 percent have no academic degree. Differences in level and extent of academic training may be one factor that adversely affects intergroup communication.

As Table 23 shows, the groups are strikingly different as far as sex distribution is concerned. Nearly three-fourths of the audiologists are male while nearly three-fourths of the teachers are female.[7] Without taking sides in the battle of the sexes, we assert it is not inconceivable that the sex differential also plays a part in causing difficulties in communication and problems in interprofessional relationships.

The differences in age are not nearly as striking as the intergroup differences noted above. A somewhat higher proportion of teachers were born prior to 1910 (19 percent for teachers and 7 percent for audiologists) while a higher percentage of audiologists were born in the 1920-1929 period (38 percent as opposed to 25 percent for the teachers). These differences, however, appear minor, and on the whole, the groups are comparable with respect to age (the average age of respondents in both groups is approximately 41 years).

The next question in this section dealt with certification (see Appendix E, Question 6). Although both audiologists and teachers answered this question, only data related to teachers are presented here. It is not meaningful to present data on the certification of audiologists in that the major criterion for selecting the audiologists for the sample was their ASHA certification status (Basic or Advanced Certification in Hearing). It is interesting, though, that 19 audiologists (9%) reported that they had some type of certification as a teacher of the deaf. As far as the teachers are concerned, 36 (13%) had no certification, 51 (18%) had state certification only, and 47 (16%) had CEASD certificates only. The remainder had various combinations of certificates such as state and CEASD certificates, ASHA and CEASD certification, and so forth. A total of 43 teachers (15%) reported having some type of ASHA certification, a higher percentage than the percentage of audiologists reporting some type of certification as a teacher of the deaf.

The last question in this section dealt with years of paid professional experience, and the results are shown in Table 24. These results are straightforward but one point should be noted. The majority of the teachers either have less than 5 years of paid

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[7] *It should be noted that in terms of both academic degree and sex distribution, the audiologists are considerably different than ASHA members in general. In fact, the distribution of both of these variables within the teacher group bears a remarkable resemblance to the distribution found for the ASHA membership (Ventry, Newman, and Johnson, 1965).*

Table 24. Years of paid professional experience for audiologists and teachers of the deaf.

Years of Experience	Audiologists		Teachers	
	No.	(%)	No.	(%)
Less than 5	42	(19)	95	(33)
5 - 9	69	(31)	51	(18)
10 - 14	58	(26)	49	(17)
15 - 19	27	(12)	30	(10)
20 and over	20	(09)	50	(17)
Not reported	6	(03)	12	(04)
Total	222		287	

professional experience (33%) or 20 or more years of experience (17%); only 28 percent of the audiologists fall into these two groups. The great majority of the audiologists (69%) have 5 to 19 years of experience while 45 percent of the teachers are in this category. Despite these differences, the average length of experience for each group is about the same—10 years for the audiologists and 11 years for the teachers.

Perhaps the major question of the questionnaire was the one that dealt with academic preparation (see Appendix E, Question 11). The question contained 33 items describing areas that are usually covered in the training of audiologists and/or teachers of the deaf. Respondents were asked to check (a) how essential it was for them to be trained in that area; (b) how essential it was for a member of the other profession to be trained in that area; and (c) how much emphasis was placed on the area at the institution at which they received the major part of their training. For (a) and (b) above, respondents were asked to check if the area was "Essential," "Desirable," or "Not Essential." To indicate the emphasis placed on the area in their training, respondents checked one of four columns—"Too much," "About right," "Too little," and "None at all." The question was not an easy one to answer, but for the most part, respondents seemed to be able to handle the task.

It may be that the difficulty in analyzing the results for this question is a reflection of the complexity of the question itself. For example, there are 36 possible combinations that an individual

could check for each of the 33 areas. These combinations ranged from checking "Essential" for himself, "Essential" for a member of the other profession, and "Too much emphasis" to "Not essential" (himself), "Not essential" (other profession), and "None" (no emphasis placed on the area in his training). The 33 areas multipled by 36 combinations multiplied by the number of respondents in each sample provides a numerical estimate of the complexity of the analysis.

Despite its appearance, Table 25 is one of the simpler ways of presenting the results. The table is fairly easy to interpret. It shows, for each of the 33 items, the response given by at least 50 percent of each sample. If the frequency of a particular response is less than 50 percent, the next most frequent response is also shown. All numbers represent percentages. An example will serve to illustrate how the table is interpreted. For the area "Physics of sound," 96 percent of the audiologists responding to this question indicated that this area is essential (E) in the training of audiologists, 55 percent of the audiologists indicated that it is desirable (D) for teachers to receive training in the area, and 63 percent of the audiologist sample reported that the emphasis on the area in their training was about right (A). These results are shown in the first three columns and the first row of Table 25. The next three columns show the responses given by the teachers for this item. In this example, 91 percent of the teachers indicated that "Physics of sound" is essential in the training of audiologists, 55 percent indicated that training in the area is desirable for teachers, and 66 percent of the group reported that the emphasis on this area in their training was about right.

Two points with respect to this example should be noted because they serve as an introduction to some of the results discussed later. First, there is good intergroup agreement on the importance of "Physics of sound" in the training of audiologists and teachers. Of the audiologists, 96 percent saw this area as essential in their training and 55 percent indicated that training in the area is desirable for teachers. For the teachers, 91 percent (compared to 96 percent of the audiologists) viewed the area as essential for audiologists and 55 percent (the same percentage as reported by the audiologists) saw training in this area as desirable for teachers. Second, although nearly all of the audiologists viewed "Physics of sound" as essential, only 63 percent indicated that their training in this area was about right. In other words, over one-third of the audiologists indicated that there was too little or no emphasis at all on this area in their training ("Too much" emphasis was infrequently checked for any item). These two types of comparisons form the basis of the analyses presented below.

Table 25. Opinions of audiologists and teachers of the deaf about academic preparation in audiology and education of the deaf.

AREA	AUDIOLOGISTS			TEACHERS		
	Training of Audiol.	Training of Teach.	Emphasis in own Training	Training of Audiol.	Training of Teach.	Emphasis in own Training
1) Physics of sound	E- 96%	D- 55%	A- 63%	E- 91%	D- 55%	A- 66%
2) Elementary electronics	E- 73%	D- 57%	T- 56%	E- 78%	D- 59%	A- 42% T- 25%
3) Anatomy and physiology of hearing	E-100%	E- 77%	A- 83%	E- 90%	E- 77%	A- 34%
4) Causes and treatment of hearing impairment	E- 98%	E- 52%	A- 78%	E- 82%	E- 54%	A- 73%
5) Psychophysical methods	E- 93%	D- 58%	A- 60%	E- 86%	D- 59%	A- 51%
6) Audiometers	E- 99%	D- 56%	A- 76%	E- 98%	D- 54%	A- 57%
7) Standard audiometric techniques	E- 99%	E- 49% D- 43%	A- 88%	E- 96%	D- 48% E- 42%	A- 62%
8) Special audiometric techniques	E- 98%	D- 56%	A- 49% T- 46%	E- 96%	D- 54%	A- 45% T- 35%
9) Screening audiometry	E- 92%	NE- 41% D- 38%	A- 77%	E- 88%	D- 52%	A- 56%
10) Interpretation of audiometric results	E-100%	E- 64%	A- 80%	E- 96%	E- 54%	A- 52%
11) Hearing aid procedures	E- 99%	D- 52%	A- 67%	E- 96%	D- 56%	T- 42% A- 38%
12) Speechreading	E- 75%	E- 98%	A- 68%	D- 53%	E- 91%	A- 72%
13) Residual hearing	E- 92%	E- 88%	A- 49% T- 47%	E- 84%	E- 71%	A- 54%
14) Anatomy and physiology of vocal mechanism	E- 52%	E- 65%	A- 81%	E- 51%	E- 68%	A- 70%
15) Nature and assessment of voice and speech disorders	E- 48% D- 47%	D- 51%	A- 80%	D- 47% E- 40%	E- 48% D- 40%	A- 48% T- 35%
16) Systems of orthography	D- 62%	E- 97%	A- 43% T- 39%	D- 54%	E- 80%	A- 71%
17) Linguistics	D- 69%	D- 59%	T- 49% N- 28%	D- 54%	D- 48% E- 38%	A- 46% T- 31%
18) Speech and language development	E- 75%	E- 94%	A- 56%	D- 50%	E- 94%	A- 78%
19) Teaching language to deaf	D- 63%	E- 96%	T- 43% N- 20%	D- 52%	E- 95%	A- 75%
20) Manual communication	D- 53%	E- 50%	N- 72%	D- 44% NE- 40%	NE- 31% E- 36% D- 34%	N- 53%
21) Teaching reading to deaf	NE- 62%	E- 98%	N- 61%	NE- 70%	E- 97%	A- 50%
22) Subject matter instruction for deaf	NE- 67%	E- 98%	N- 59%	NE- 68%	E- 97%	A- 55%

Continued

CODE

E = Essential
D = Desirable
NE = Not essential
A = About right
T = Too little
N = None

Table 25. (Continued)

AREA	AUDIOLOGISTS Training of Audiol.	AUDIOLOGISTS Training of Teach.	AUDIOLOGISTS Emphasis in own Training	TEACHERS Training of Audiol.	TEACHERS Training of Teach.	TEACHERS Emphasis in own Training
23) Psychology of deafness	E- 85%	E- 94%	A- 47% T- 46%	E- 67%	E- 86%	A- 54%
24) Social and vocational adjustment of deaf	E- 58%	E- 89%	T- 54%	D- 51%	E- 77%	T- 48% A- 43%
25) History and philosophy of education of deaf	D- 60%	E- 82%	A- 44% T- 31%	D- 56%	E- 67%	A- 78%
26) Supervised teaching of class of deaf students	NE- 63%	E- 94%	N- 53%	NE- 56%	E- 92%	A- 74%
27) Supervised teaching of deaf in language development, speechreading, or speech development	D- 43% NE- 37%	E- 97%	A- 36% N- 33%	NE- 50%	E- 91%	A- 70%
28) Planned observations in schools or classes for deaf	E- 48% D- 44%	E- 97%	T- 42% A- 32%	D- 57%	E- 89%	A- 66%
29) Planned observations at speech and hearing clinics	E- 84%	E- 62%	A- 71%	E- 62%	D- 50% E- 48%	A- 42% T- 35%
30) Supervised practice in auditory training of aurally handicapped	E- 80%	E- 92%	A- 51%	E- 60%	E- 73%	A- 46% T- 33%
31) Supervised practice in teaching speechreading to hard of hearing	E- 74%	E- 84%	A- 62%	D- 47% NE- 29%	E- 60%	A- 49% T- 31%
32) Supervised practice in hearing and evaluation procedures	E- 97%	D- 46% NE- 37%	A- 64%	E- 89%	D- 51%	N- 37% T- 31% A- 32%
33) Supervised practice in screening audiometry	E- 87%	NE- 42% D- 40%	A- 74%	E- 91%	D- 47% NE- 36%	A- 41% N- 35%

CODE

E = Essential	A = About right
D = Desirable	T = Too little
NE = Not essential	N = None

First, some general observations. Generally speaking, there is good intergroup agreement concerning the importance of the various areas in the training of teachers and audiologists. For the training of audiologists, the two groups agreed on 21 (64%) of the 33 items; that is, there was intergroup agreement on the importance of the item in the training of audiologists (Essential, Desirable, Not Essential) and there was no greater than a 10 percent difference between groups. Some of the areas on which good agreement was noted were "Physics of sound" (see above), "Elementary electronics" (73 percent of the audiologists indicated this was essential for audiologists and 78 percent of the teachers expressed the same opinion), "Psychophysical methods" (93% audiologists—86% teachers), "Supervised teaching of a class of

deaf students'' (63 percent of the audiologists indicated that this was non-essential for audiologists and 56 percent of the teachers were of the same opinion), and so forth. For the training of teachers, intergroup agreement was noted for 24 (73%) of the 33 items. Some of these items include ''Audiometers'' (54 percent of the audiologists indicated that this was desirable for teachers and 56 percent of the teachers expressed the same opinion), ''Interpretation of audiometric results'' (64 percent of the audiologists believed this was essential for teachers while 54 percent of the teachers also believed it was essential in the training of teachers), ''Hearing aid procedures'', and so forth.

There was also good intragroup agreement concerning the importance of the various areas. Majority opinions were noted on all but 3 items for audiologists and on 27 of the 33 items for teachers. For both groups, there was some disagreement over the importance of the ''Nature and assessment of voice and speech disorders.'' For example, 48 percent of the audiologists felt this area was essential in the training of audiologists while 47 percent of the audiologists indicated that it was only desirable. Forty-eight percent of the teachers indicated that the area was essential in the training of teachers and 40 percent indicated that it was desirable. Planned observations in schools and classes for the deaf was believed essential for audiologists by 48 percent of the audiologist sample; an additional 44 percent felt the item was desirable. The greatest disagreement for the teacher sample is related to manual communication. Here, 35 percent of the teachers indicated that manual communication is essential in the training of teachers, 31 percent reported that it is nonessential, and 34 percent indicated that manual communication is desirable. It is interesting that half of the audiologist group indicated that manual communication is essential for teachers and over half (53%) indicated that it was desirable for audiologists. Teachers differed somewhat over the importance of linguistics in the preparation of teachers. For this area, 48 percent of the teachers indicated that it was essential and 38 percent reported that it was desirable.

There was also good intragroup agreement on the importance of an area for the other profession. Less than majority opinions were found in the audiologist group for only four items (see Table 25, items 7, 9, 32, and 33) and for three items (see Table 25, items 15, 20, and 31) in the teacher group.

What are some of the more important intergroup differences concerning training? There are five areas which reflect major disagreement between the groups on the importance of the area in the training of audiologists or teachers. Item 12—''Speechreading''—is one of these areas. As shown in Table 25, 75 percent of

the audiologists indicated that speechreading is essential in the training of audiologists while 53 percent of the teachers believed that it was desirable (not "Essential") that audiologists receive training in speechreading. The same difference is reflected in the findings on item 31—"Supervised practice in teaching speechreading to hard of hearing." Most of the audiologists (74%) viewed this as essential but 47 percent of the teachers saw it as only desirable and another 29 percent indicated that this area was not essential in the training of audiologists. It will be recalled from an earlier section, that speechreading appears not to be a major responsibility of audiologists employed in speech and hearing facilities (at least in those facilities surveyed). It may be, then, that the majority response of the teachers is the result of a more realistic evaluation of the audiologist's role today, whereas the importance placed on this item by audiologists reflects the traditional emphasis given to speechreading in audiology curricula.

Another major area of difference is on the importance of speech and language development (item 18) in the training of audiologists. Three-fourths of the audiologists agreed that the area of speech and language development is essential in the training of audiologists but 59 percent of the teachers saw this area only as desirable for audiologists. According to the findings reported earlier, however, one of the major complaints voiced by educators of the deaf was that audiologists do not have an adequate understanding of the language problems caused by deafness. One might expect, therefore, that teachers of the deaf would place considerable importance on this area for audiologists. This was not the case and in this instance, audiologists may be better aware of their own needs than teachers.

The responses of the two groups on item 24—"Social and vocational adjustment of the deaf"—presents a similar picture. Again, the majority of the audiologists see this as an important area for them (it was checked essential by 58 percent of the audiologists) but it was not given the same degree of importance by teachers, 51 percent of whom indicated that the area was merely desirable for audiologists. An interesting sidelight here is that while 58 percent of the audiologists indicated the area was essential, 54 percent of the group indicated that too little emphasis was placed on this area in their training.

The final item reflecting an intergroup difference in opinion was "Manual Communication." Half of the audiologists saw this as essential in the training of teachers but the teachers themselves, as noted earlier, were badly split on the importance of manual communication in teacher training, reflecting probably the oral-manual controversy.

Certain of the results presented in Table 25 appear to have important implications for audiology and teacher training programs. Of the 14 primarily audiologic items in Table 25, only the following 3 were seen by teachers as essential in the training of teachers: (1) anatomy and physiology of hearing, (2) causes and treatment of hearing impairment, and (3) interpretation of audiometric results. It is important to note that over 70 percent of the teacher training programs indicated that these areas are essential and required in the training of teachers (see Table 4). In fact, there is remarkably good agreement on the importance of items as seen by teachers and the importance placed on these items in teacher training programs (compare Tables 4 and 25). Only one item—"Standard audiometric techniques"—appears to have more importance to training program directors than to teachers. But for the most part, the areas that are considered essential by a majority of teachers are the same areas that are considered essential (and required) by a majority of the teacher training programs. Take, for example, "Residual hearing." This was considered essential by 71 percent of the teachers and 68 percent of the training programs. Or "Anatomy and physiology of the vocal mechanism"—considered essential by 68 percent of the teachers and 76 percent of the training programs.

There is some indication, however, that at least as far as the teachers sampled in this survey are concerned, too little emphasis was placed in their training on a number of items that they consider essential or desirable in the training of teachers. The responses to two items illustrate this point. Nearly all of the teachers (97%) indicated that teaching reading to the deaf is an area that is essential in the training of teachers. Only 50 percent reported that the emphasis in their training was about right. In the opinion of a large majority of the teachers (77%), social and vocational adjustment is essential, but nearly half (48%) reported that too little emphasis was given to this area. These differences may be accounted for by the fact that at the time the majority of teachers were receiving their training, these areas did, indeed, receive little emphasis. It may be, though, that directors of teacher training programs will want to reexamine the emphasis they place in their training program on those areas considered essential or desirable by the majority of the teachers but which received too little emphasis in their training.

Of the 11 primarily deaf education items, only 2 were viewed by audiologists as essential in the training of audiologists: (a) psychology of deafness and (b) social and vocational adjustment of the deaf. In the former instance, 49 percent of the audiology training programs indicated that this was an essential area but only

25 percent required it. Less than 17 percent of the audiology training programs required material related to social and vocational aspects of deafness (see Table 5), but 58 percent of the audiologists reported that this area was essential in the training of audiologists. One other area—"Manual communication"—was rated relatively important by audiologists (53 percent indicated that it was desirable), but not essential by 46 percent of the training program directors. These are the only 3 major discrepancies between the importance of an area as seen by audiologists and the importance placed on the area in training programs. Once again, the training programs seem in tune with the workers—or is it the reverse?

That the picture is not completely bright is reflected in the fact that for at least 14 areas, a sizable number of audiologists indicated that insufficient emphasis was placed on that area in their training. For example, 73 percent of the audiologists indicated that elementary electronics is essential in the training of audiologists but 56 percent indicated that too little emphasis was placed on it in their training. A more striking example concerns linguistics. Although 69 percent believe that this area is desirable, 77 percent indicated that they received too little or no training in linguistics. A similar finding is noted for "Teaching language to the deaf." Here, 63 percent indicated the desirability of training in this area but 72 percent indicated that too little or no emphasis was given to the area. Again, it might be profitable for directors of audiology training programs to reexamine the emphasis placed on those areas viewed as essential or desirable by audiologists but which apparently received too little emphasis in the academic preparation of the audiologists.

A question that should logically have followed the training question but which preceded it on the questionnaire dealt with post-degree training (see Appendix E, Questions 9a, 9b, and 10). Audiologists were asked if they had any post-degree training directly related to the education of the deaf and teachers were asked about their post-degree training in audiology. Of the audiologists, less than half (41%) indicated that they had had some post-degree training directly related to the education of the deaf. The percentage of teachers having some post-degree training in audiology was slightly higher (47%) but still less than half of the teacher group. Table 26 shows the nature of the post-degree training. An inspection of the table reveals several interesting findings. First, college or university courses constitute the principal type of post-degree training obtained by teachers with short courses, in-service training, and so forth, playing a minor role. Second, while the majority of audiologists reported taking college

Table 26. Types of post-degree training obtained by audiologists (N=91) in education of the deaf and by teachers of the deaf (N=133) in audiology.

Type of Training	Audiologists		Teachers	
	No.	(%)[a]	No.	(%)[a]
College or university courses	53	(58)	105	(79)
Short courses	40	(44)	20	(15)
In-service training	27	(29)	28	(21)
Summer workshop	26	(29)	24	(18)
Other	14	(15)	15	(11)

[a]Total percent is more than 100 because respondents could check more than one type of post-degree training.

or university courses related to education of the deaf, a relatively high percentage (44%) also reported taking short courses. The reason for the intergroup difference related to short courses is unclear. Finally, 41 percent of the teacher group reported having more than one type of post-degree training while for the audiologists, this percentage was 57 percent. The major point here, however, is that more than half of each group reported having no post-degree training related to the other field.

The last section of the questionnaire dealt with relationships between audiologists and teachers of the deaf and with the contributions that each group could make to the other area. The first two questions in this section asked for an opinion concerning current and past relationships between audiologists and teachers of the deaf. Tables 27 and 28 show these results. Table 27 is interesting in that it reflects the fact that teachers appear to have a more favorable opinion of current interprofessional relationships than do audiologists. Nearly half of the teachers indicated that current relationships are either excellent or good whereas only one-fourth of the audiologists expressed these same opinions. The large majority of the audiologists (75%) see current relationships as either fair or poor. Despite the positive opinions expressed by a relatively high percentage of teachers, there is little doubt that there is a considerable need for improving interprofessional relationships.

That current interprofessional relationships are an improvement over relationships in previous years is shown in Table 28. About

Table 27. Opinions of audiologists and teachers of the deaf about current interprofessional relationships.

Relationship	Audiologists		Teachers	
	No.	(%)	No.	(%)
Excellent	5	(03)	33	(13)
Good	44	(23)	82	(33)
Fair	105	(54)	94	(38)
Poor	40	(21)	37	(15)
Total[a]	194		246	

[a]Respondents who did not answer the question or who had no opinion have been omitted from the analysis.

Table 28. Opinions of audiologists and teachers of the deaf about current interprofessional relationships as compared to interprofessional relationships in previous years.

Current Relationships	Audiologists		Teachers	
	No.	(%)	No.	(%)
About the same	38	(22)	28	(14)
Improved	126	(74)	155	(79)
Not as good	7	(04)	12	(06)
Total[a]	171		195	

[a]A sizable proportion of both groups (20 percent of the audiologists and 27 percent of the teachers) indicated they had no opinion. These respondents have been excluded from the analysis as have those respondents who failed to answer the question.

the same percentage of both groups (approximately 75 percent) expressed the opinion that there has been an improvement in relationships. Interprofessional relationships in past years appear to have been not very good. Results not shown in Tables 27 or 28 indicate that a sizable proportion of both groups, while indicating

that relationships have improved, still are of the opinion that current relationships are only fair or good.

A number of excellent comments were given in response to the request that respondents explain their answers concerning interprofessional relationships. Unfortunately, it is not possible to present other than a brief sample of the comments that seem to have the most relevance. One audiologist, whose opinion was that current relationships are good and that relationships have improved, said this: "Audiology has developed greatly improved techniques to test hearing and evaluation, learning much this past two decades. Since teachers of the deaf are gaining more recognition and their importance felt to the extent that more universities are extending programs to include appropriate training, the rapport between audiology and teachers of the deaf should improve through mutual respect." An audiologist, who indicated that current relationships are fair and about the same as in previous years, had this to say: "As exemplified by this questionnaire, contacts are still very much limited to high levels; contacts between practicing audiologists and teachers of the deaf seem still to be only sporadic. Neither seems to understand the other; the teacher of the deaf appears to be (to the audiologist) very defensive about her work and doing the same thing she did years ago; to the teacher of the deaf, the audiologist is intruding in a field about which he knows very little. Both, unfortunately, are on pretty solid ground in too many instances." Still another audiologist, who expressed the opinion that current relationships are fair and not as good as relationships in previous years, put it this way: "Unguided, uninformed and possessive overlapping or duplication of interests, responsibilities of effort, result from poor understanding or acceptances of responsibilities and functions. Teachers of the deaf having a smattering of acquaintance with audiology and speech pathology are too often trying to perform as audiologists or speech pathologists while audiologists—even less clearly defined—are poorly acquainted with and prepared for their necessary functions with deaf education." Another audiologist, who viewed current relationships as poor but improved, said this: "The inter-disciplinary training has helped. The maturation of audiology and the improved understanding by audiologists of the problems and goals of education of the deaf, together with a better understanding of the emerging forms of audiology, on the part of educators of the deaf, have resulted in better relationships. The point on the continuum is still unacceptably low, however."

Here is a sampling of some of the comments made by teachers. One teacher who believed that current relationships are excellent

and had no opinion about previous relationships offered this comment: "I can speak only for our school. We have a fine audiologist and cooperation is at a maximum. The audiologist can do so much to make the educational program efficient by helping the teacher understand the capabilities of her students in terms of language and speech potential." Another teacher, viewing relationships as fair, but improved, put it this way: "It appears that lack of contact between audiologists and teachers of the deaf and the resulting lack of understanding of the total problems of the aurally handicapped child has brought about the limited professional contacts which are maintained at present. There has been some improvement noted, however, because of increased opportunities for visiting facilities and exchange of ideas by persons in both areas." The following comment offers an explanation for the lack of contact cited above: "I find very little interplay between the two groups. This unfortunate state of affairs is not entirely due to lack of understanding between audiologists and teachers of the deaf but a contributing factor is the pressures put upon each group resulting in lack of time to permit the necessary observation of one another at work. Increased class loads and number to be tested has not permitted much improvement in the relationships." Finally, the following comment, illustrating some of the more basic problems, was made by a teacher who saw current relationships as fair and not as good as in previous years: "In the early days of audiology, not as much specialized knowledge was available as there is today. The increasing sophistication of audiologists has placed them in a rarified atmosphere, mostly theoretical in content, and more or less removed from the practical considerations of problems relating to deaf children. They do not know, most of them, the educational problems contained in deafness, but still presume to advise parents. Perhaps the roles of each should be better defined, or better understanding of their roles be shared by the two groups."

An attempt was made to obtain a more objective picture of the problem areas having an adverse effect on interprofessional relationships by asking respondents to indicate which of 12 problem areas they felt were most critical. They were instructed to check no more than 3 areas. Table 29 shows the importance given to each area based on the frequency with which the area was checked. For simplicity, the areas are ranked from 1 to 12 with 1 representing the item checked most frequently.

There are several very interesting findings shown in Table 29, findings which may provide important insights into some of the reasons for interprofessional problems. Both groups agreed that the single most important problem area affecting relationships is

Table 29. Order of importance of various problem areas affecting interprofessional relationships as seen by audiologists and teachers of the deaf.

Problem Area	Ranking by Audiologists	Ranking by Teachers
Lack of professional contact between audiologists and teachers of the deaf	1[a]	1
Inadequate academic preparation of teachers of the deaf in audiology	2	8.5
Inadequate academic preparation of audiologists in education of the deaf	3	4
Inadequate information about the responsibilities and duties of audiologists	4.5	2
Lack of appreciation by audiologists of the work done by teachers of the deaf	4.5	5
Conflicting or mutually exclusive goals of teachers of the deaf and audiologists	6	10.5
Lack of appreciation by teachers of the deaf of the work done by audiologists	7	8.5
Inadequate information about the responsibilities and duties of teachers of the deaf	8	3
Insufficient practicum experiences in education of the deaf by audiologists	9	7
Poor communication between the executive offices of professional organizations representing teachers of the deaf and professional organizations representing audiologists	10	10.5
Insufficient practicum experiences in audiology by teachers of the deaf	11	6
Lack of familiarity with the publications of each profession	12	12

[a]Numbers represent ranks given to each area based on the frequency with which the area was checked.

the lack of professional contact between audiologists and teachers of the deaf. There are other areas of agreement. Both groups indicated that poor communication between professional associations was not an important problem area, nor was lack of familiarity with the publications of each profession. Both groups also agreed that lack of appreciation by audiologists of the work done by teachers is a relatively important problem area and more important than the lack of appreciation by teachers of the work done by audiologists. There was also good intergroup agreement that inadequate academic preparation of audiologists in education of the deaf is an important problem area (this was ranked third in importance by audiologists and fourth by teachers). There is a significant disagreement, however, over the adequacy of the academic preparation of teachers in audiology. Audiologists saw this as the second most important area but teachers ranked the item as relatively unimportant. Despite the fact that audiologists are critical of their academic preparation in the education of the deaf, they are not nearly as critical of either their practicum experience in education of the deaf (ranked ninth) or their information about the duties and responsibilities of teachers (ranked eighth). This latter item, it is important to note, was ranked third in importance by teachers, again reflecting an important area of disagreement. Both groups, however, did view inadequate information about the responsibilities and duties of audiologists as a relatively more important problem area than inadequate information about the duties and responsibilities of teachers. There are two other areas reflecting some intergroup differences. Audiologists saw conflicting or mutually exclusive goals of the two groups as a fairly important problem (ranked sixth) but teachers ranked it near the bottom. Finally, audiologists seemed far less critical of the practicum experiences in audiology of teachers (ranked eleventh) than the teachers themselves (ranked sixth).

To summarize, the four most important problem areas affecting interprofessional relationships, as generally agreed upon by both groups, are as follows: (1) lack of professional contact between audiologists and educators of the deaf; (2) inadequate information about the responsibilities and duties of audiologists; (3) inadequate academic preparation of audiologists in education of the deaf; and (4) lack of appreciation by audiologists of the work done by teachers of the deaf. Audiologists view inadequate academic preparation in audiology by teachers as a critical problem area while teachers feel strongly that audiologists have inadequate information about the responsibilities and duties of teachers of the deaf.

What steps should be taken to improve interprofessional relationships? Table 30 shows the answers given by the two groups.

Table 30. Steps that could contribute to improved interprofessional relationships as seen by audiologists and teachers of the deaf.

Steps	Ranking by Audiologists	Ranking by Teachers
Joint participation of audiologists and teachers of the deaf in state or regional workshops	1[a]	1
Increase emphasis on education of the deaf in audiology training programs	2	2
Increase emphasis on audiology in teacher of the deaf training programs	3	6
Establish more effective liaison between the American Speech and Hearing Association and the various organizations concerned with the education of the deaf	4	5
Increase the number of audiologists employed in educational programs for the deaf	5	8
Planned observations by audiologists of the work done by teachers of the deaf	6	3
Planned observations by teachers of the deaf of the work done by audiologists	7	4
Special programs for teachers of the deaf at American Speech and Hearing Association conventions	8	7
Special programs for audiologists at conventions of the American Instructors of the Deaf	9	9
Increase the number of teachers of the deaf employed in speech and hearing centers	10	10

[a]Numbers represent ranks given to each area based on the frequency with which the area was checked.

As can be seen from an inspection of the table, there is better intergroup agreement on steps to be taken than there is on problem areas. There is very close, if not exact, agreement on six of the ten steps listed. The two most important steps, agreed upon by both groups, are: (a) joint participation of audiologists and teachers of the deaf in state or regional workshops, and (b) increased emphasis on education of the deaf in audiology training programs. There was also good agreement on the importance of establishing more effective liaison between ASHA and the various organizations concerned with the education of the deaf. It is interesting that special programs at conventions were ranked low by both groups as was increasing the number of teachers of the deaf employed in speech and hearing centers. The low rank given to this latter item is very surprising and quite different than the importance placed on this step by the participants at Tucson.

The intergroup disagreements are generally consistent with the intergroup differences shown in Table 29. For example, audiologists place more importance on increasing the emphasis on audiology in teacher training programs than do teachers. This is consistent with the importance assigned by each group to the problem area dealing with the academic preparation of teachers in audiology. Similarly, practicum experiences of both audiologists and teachers were viewed by teachers as fairly important problems. Thus, steps to increase observational opportunities are ranked important by teachers but less important by audiologists. The only other area of disagreement is related to increasing the number of audiologists in educational programs for the deaf. This was ranked as relatively important by audiologists but was seen as a relatively unimportant step by teachers.

The last two questions dealt with the contributions that could be made by audiologists to the education of the deaf and the contributions that could be made by teachers of the deaf to audiology. A total of 8 contributions were listed for each question and respondents were instructed to check no more than 3 contributions for each question. Table 31 shows the results on the contributions that audiologists can make to the education of the deaf. Again, there is good intergroup agreement on at least 5 of the 8 items. The two most important contributions that audiologists can make to the education of the deaf, as seen by both groups, are: (1) more meaningful recommendations concerning the use of hearing aids and the use of residual hearing, and (2) more meaningful presentations to teachers of the deaf concerning the educational implications of audiologic findings. Both groups agree on the relatively important contribution that can be made through improved diagnosis and evaluation of hearing loss and on the contribution

Table 31. Contributions that audiologists can make to the education of the deaf as seen by audiologists and teachers of the deaf.

Contribution	Ranking by Audiologists	Ranking by Teachers
More meaningful recommendations concerning the use of hearing aids and the use of residual hearing	1[a]	2
More meaningful presentations to teachers of the deaf concerning the educational implications of audiological findings	2	1
Additional research on deafness, hearing aids, and auditory training	3	7
Improved diagnosis and evaluation of hearing loss	4	4
Serve on the staff of teacher of the deaf training programs	5	6
Better evaluation of sensory and language abilities and disabilities	6	3
More meaningful interpretations of audiological findings to parents	7	5
More active role in the placement of deaf children in educational programs	8	8

[a]Numbers represent ranks given to each area based on the frequency with which the area was checked.

that can be made by audiologists serving as staff members in teacher of the deaf training programs. It might have been expected, however, that audiologists would have ranked this item higher in importance in view of the importance they placed on increasing the emphasis on audiology in teacher training programs. The one contribution that is seen as least important by both groups is the audiologist playing a more active role in the educational placement of deaf children.

Important differences occured on two items. Audiologists apparently feel that an important contribution can be made by them through additional research on deafness, hearing aids, and auditory training, and ranked the research contribution third. But teachers put far less emphasis on the research contribution of audiologists and because of its infrequent selection, it was ranked next to last by teachers. Instead teachers indicated that a more important contribution could be made by audiologists through better evaluation of sensory and language abilities and disabilities. While this item was ranked third by teachers, it was ranked sixth by audiologists. More meaningful interpretations of audiologic findings to parents was viewed by audiologists as relatively unimportant (ranked seventh) but it received a higher ranking by teachers of the deaf (ranked fifth).

Table 32 shows the findings related to the contributions that teachers can make to audiology. Once again, there is relatively good intergroup agreement. Both groups viewed as important the contribution that teachers could make by assisting audiologists in understanding problems related to teaching deaf children and in assisting audiologists in understanding language problems related to deafness. There was also agreement on the relative unimportance of teacher participation in audiologic research on deafness and in audiologic evaluation of hearing disorders. It is interesting that the item ranked first by audiologists—teachers participation in the follow-up audiologic appraisals of children who are in deaf education programs—was ranked only fourth by teachers. This relatively low ranking by teachers is a little difficult to understand in that such a step would provide opportunities for close interprofessional contacts and would enable the audiologist to draw upon the invaluable knowledge the teacher has about the child's behavior, his educational achievement, and so forth. The contribution that teachers could make by serving on the staffs of audiology training programs also resulted in a difference of opinion, with the audiologists ranking it more important than teachers. This despite the fact that teachers have consistently indicated the importance of increasing the emphasis on education of the deaf in audiology training programs.

Summary. A sample of audiologists (N = 222) and teachers of the deaf (N = 287) were surveyed to determine their attitudes about the academic preparation of audiologists and teachers, to obtain their opinions on critical problems currently affecting interprofessional relationships as well as their opinions about the solutions to these problems, and to determine the nature of the contributions each professional group could make to the other area.

Table 32. Contributions that teachers of the deaf can make to audiology as seen by audiologists and teachers of the deaf.

Contributions	Ranking by Audiologists	Ranking by Teachers
Participate in the follow-up audiological appraisals of children who are in deaf education programs	1[a]	4
Assist audiologists in understanding problems related to the teaching of deaf children	2	1
Serve on the staff of audiology training programs	3.5	6
Assist audiologists in understanding language problems related to deafness	3.5	2
Provide observational opportunities for audiologists in educational programs for the deaf	5	3
Participate in the audiological counseling of parents of deaf children	6	5
Participate in audiological research related to deafness	7	7
Participate in the audiological evaluation of hearing disorders	8	8

[a]Numbers represent ranks given to each area based on the frequency with which the area was checked.

The two samples differed markedly with respect to certain characteristics. The two most striking differences were in terms of sex—about 75 percent of the audiologists were male while 75 percent of the teachers were female—and highest academic degree—over half of the audiologists have a doctorate degree as compared to 2 percent of the teachers.

The major question on the questionnaire was a 33-item question dealing with academic preparation. There was good intragroup and intergroup agreement on the importance of the majority of the items in the training of teachers and audiologists. Intergroup disagreement was noted for five areas including speechreading, speech and language development, and social and vocational adjustment of the deaf. The teacher group was divided over the importance of training in manual communication in the academic preparation of teachers of the deaf. A number of areas that were rated as essential or desirable by both audiologists and teachers apparently received inadequate emphasis in their training. There was good agreement on the importance of the various areas as seen by audiologists and teachers and the importance placed on these same areas by directors of audiology and teacher training programs. Finally, less than half of each group had some type of post-degree training directly related to the other profession.

The great majority of both groups view current interprofessional relationships as good or only fair but see current relationships as better than relationships that existed in previous years. Lack of professional contact between audiologists and teachers was seen as the major problem affecting interprofessional relationships. There was also intergroup agreement that inadequate preparation of audiologists in education of the deaf and inadequate information about the responsibilities and duties of audiologists contributed to poor relationships. The two steps that would help improve interprofessional relationships, as seen by both groups, were (a) joint participation of audiologists and teachers in state or regional workshops, and (b) increased emphasis on education of the deaf in audiology training programs. Both groups also agreed that major contributions could be made by audiologists to the education of the deaf if audiologists made more meaningful recommendations about the use of amplification and residual hearing and if they made more meaningful presentations about the educational implications of audiologic findings. The two contributions that teachers could make to audiology, as agreed upon by both groups, were assisting audiologists in understanding problems related to the teaching of deaf children and helping audiologists understand language problems caused by deafness.

G. Discussion and Implications

No attempt will be made here to discuss all the implications and ramifications of the results presented in the preceding sections. Many of the implications are readily (and perhaps, painfully) apparent. Other, more subtle implications will be brought

out at the regional meetings, at staff meetings, and hopefully at other face-to-face meetings of audiologists and educators of the deaf. Many of the resolutions voted upon at the National Conference of Audiology and Education of the Deaf (see Chapter IV) also deal directly with some of the problems described in earlier sections. The purpose in this section, therefore, will be to focus on some of the highlights of the data and some of the more important implications of these highlights.

There appears to be little question that the most important aspect of the entire project deals with the training of audiologists and teachers of the deaf (Sections C and F, above). The nature, the quality, and the utility of the audiologic services provided to deaf clients by speech and hearing facilities and by audiologists employed in educational programs for deaf children are directly related to and affected by the knowledge, the competencies, and the experience of individual audiologists. Similarly, the nature and the quality of the relationships between audiologists and educators of the deaf are, in large part, a function of these same factors—knowledge, competency, and experience—for <u>both</u> audiologist and educator.

There is all too ample evidence, however, to suggest that the training of both audiologists and teachers (but especially audiologists) does not prepare them to function optimally, either in providing services or in dealing with each other. There is general consensus that the lack of emphasis on education of the deaf in audiology training programs results in the inadequate academic preparation of audiologists in the education of the deaf; that too little emphasis has been placed on certain areas that audiologists consider essential in the training of audiologic personnel, including areas relevant to deaf education; that audiologists have inadequate information about the roles and responsibilities of teachers of the deaf; that audiology students have infrequent opportunities to observe in educational programs for deaf children; that audiologists have little information about the educational and language problems imposed by deafness; that educators of the deaf are employed infrequently in audiology training programs; and so on. It boils down to the fact that the lack of emphasis on deaf education in audiology training programs has probably contributed significantly to many of the problems affecting both services and interprofessional relations.

Although teacher training programs, at least on the surface, seem to have incorporated much more of audiology than vice-versa, there are some fundamental problems here as well. The very fact that over half of the teachers surveyed had either no degree or a bachelor's degree as their <u>highest</u> academic degree

while over half of the audiologists had a doctorate degree as their highest academic degree must lead inevitably to friction. The one group is accused of being defensive, the other group condescending and patronizing.

It may very well be that until post-baccalaureate training becomes the accepted level of training for teachers, difficulties in communication and in interprofessional relationships will continue to exist and will continue to have an adverse effect on services. (It should be noted that a resolution at Tucson proposing post-baccalaureate training for teachers resulted in a split vote but with the majority in favor of such a step.)

But there are other problem areas with respect to the academic preparation of teachers. Teachers themselves report that they have inadequate information about something as fundamental as what an audiologist does. They also report that too little emphasis was placed in their training on audiologic areas they deem important in the training of future teachers. The majority of the directors of teaching training programs agree that there is too little emphasis on audiology in their training programs. Observations at a speech and hearing clinic are required by a bare majority of the teacher training programs and less than one-third of the speech and hearing facilities surveyed reported that they had some type of working relationship with a teacher training program. And so on. It seems that there would be no dearth of material, either related to audiology or to the education of the deaf, to occupy the post-baccalaureate year(s) of training.

It appears, then, that there is much that can be done to improve the training of future teachers and audiologists. But what of the present teacher and the audiologist in the field? What can be done for them? The data suggested that post-academic training related to the other field is not obtained frequently and, in fact, less than half of the teachers and audiologists reported such training. The answer to the question posed above may very well have been provided by the teachers and audiologists themselves; namely, that there be joint participation in state or regional workshops. Such a step (and we hope that the regional meetings sponsored by the JCAED and VRA are the first moves in that direction) would increase communication, would provide information about the roles and responsibilities of each professional group, and would also lead to continuing professional education.[8] The participants in the

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[8] *One example of this type of cooperative effort is reported in a publication entitled The Meaning of Deafness – The Report of a Workshop for Audiologists (Henderson and Francis, 1962).*

National Conference strongly endorsed the need for this type of activity.

Up to this point, the discussion has centered on the training of audiologists and teachers. Although the project is titled Audiology and Education of the Deaf, the fact cannot be ignored that speech pathologists are also involved in providing services to deaf people, perhaps to a far greater extent than is realized. Since this is the case, it is essential that serious consideration be given to the emphasis (or lack of it) on education of the deaf in the academic preparation of speech pathologists. It hardly seems likely that speech pathologists receive training in this area that is comparable to or greater than that for audiologists, and we have seen that the training of audiologists with respect to education of the deaf is generally inadequate. What then is the picture for speech pathologists? How many students in speech pathology observe deaf children? How many have actual practicum experiences with deaf adults? How many are familiar with the variety of educational programs available for deaf children? Speech and language problems are two of the more obvious and important concomitants of deafness and yet the speech pathologist, trained to deal with speech and language problems, may be only vaguely aware of these problems as they relate to deafness. It seems to us that if speech pathologists are going to be involved in providing services to deaf individuals, their academic training should include a significant exposure to deaf education.

Many of the problems noted with respect to the services provided by audiologists to deaf clients, in whatever setting, would probably be more readily resolved if increased emphasis were placed on the education of the deaf in audiology training programs. As an example, both audiologists and teachers indicated that audiologists could make major contributions to the education of deaf children by (a) making more meaningful recommendations about amplification and the use of residual hearing, and (b) making more meaningful presentations about the educational implications of audiologic findings. Neither of these steps, we think, can be implemented fully until the audiologist's knowledge about and experience with deaf children and educational programs are expanded. A relevant point here is that reports from audiologists serve frequently as irritants to the recipients (teachers) of the reports. And not all of the irritation is related to the content of the report but rather to the language used in the report. The problems would be alleviated, to some extent, if teachers were more familiar with audiologic terminology, concepts, and procedures (training again) and if audiologists reduced their dependence on gobbledygook.

The fact that so few deaf education programs employ an audiologist is understandable in light of the size of the individual education programs surveyed. In addition, speech and hearing facilities are, for the most part, accessible to educational programs. What is disturbing, though, is the finding that the speech and hearing facilities surveyed are not, according to their reports, being utilized by these educational programs. (The evidence is conflicting on this point because a relatively high percentage of the deaf education programs surveyed reported that they made referrals to speech and hearing clinics.) If this is the case, then a sizable number of educational programs do not even have an opportunity to receive "meaningful recommendations about amplification and the use of residual hearing" or "meaningful presentations about the educational implications of audiologic findings." Whatever the reason for this state of affairs (and there are numerous possibilities), it would appear that directors of speech and hearing facilities and directors of educational programs need to make a concerted and determined effort to see to it that the speech and hearing facility is utilized maximally by the educational program. This is one way to make certain that audiologic information, including the "meaningful" recommendations and presentations noted above, would be available for the children in the educational program. It should be emphasized that maximum information about a deaf child will probably not be available until the speech and hearing facility utilizes, to a far greater extent than at present, the services of a trained educator of the deaf. In fact, until audiologists have an opportunity to expand their knowledge about and experience with deaf children, the use of a trained teacher may be the one very important way for a speech and hearing facility to meet many of the needs expressed by teachers of the deaf and directors of educational programs (a resolution to this effect received near-unanimous approval at Tucson).

The last major point to be made here is concerned with the role of the audiologist, either in a speech and hearing facility or in an educational program for deaf children. There is little question that his most important role is as a diagnostician. He helps determine the degree of hearing loss, the nature of the loss, and even the etiology of the hearing problem. When his role as a diagnostician is played well, the audiologic information obtained provides an indispensable foundation for habilitative and rehabilitative procedures. If the audiologist's role were strictly limited to diagnosis, there would probably be little conflict between audiologist and teacher just as there would be little contact between the two. But the teacher wants more than an audiogram, wants more than just information about the nature and extent of

the hearing problem. The teacher wants the educational implications of the audiologic evaluation; she wants to know how the child's hearing problem will effect his language development; she wants to know how she can best use whatever residual hearing remains; and the child's parents want to know what is to happen to their child. This, perhpas, is a fundamental issue affecting services and interprofessional relationships—the demands made upon the audiologist that he is ill prepared to meet but which he must meet (or feels he must meet) in one fashion or another.

Twenty years ago, audiologists could have met these demands. The audiologist in World War II was a rehabilitation specialist who frequently had extensive experience in deaf education. The audiologic emphasis in those years was clearly on rehabilitation and not on diagnostics. Audiologists continued to participate actively in rehabilitation programs following the war, especially with adults. Gradually, however, diagnostic (clinical) audiology began to assume increasing importance probably because of the need of the otolaryngologists to have more complete audiologic information on which to base their treatment. Audiometric equipment became more readily available, speech and hearing centers began to spring up, and audiology began to blossom. But in the late 1940's and the early 1950's, there was still considerable emphasis on rehabilitation.

The emphasis on diagnosis continued to increase with a corresponding decrease in the emphasis placed on the rehabilitative aspects of audiology. If 1945 to 1954 can be labeled the "rehabilitation" years, 1955 to the present can easily be labeled the "test" years. In addition to basic pure tone and speech tests, audiologists acquired the Bekesy Audiometer, the SISI and SWAMI tests, the Rainville test and the modified Rainville test, the tone decay test, the aural overload test, delayed auditory feedback, to mention just a few. In these latter years, identification and diagnosis became the glamorous and exciting aspects of audiology: Does he have otosclerosis? Is there a VIII n. tumor? Does he have a central hearing loss? Who has phonemic regression and why? Today, the typical audiologic evaluation (exclusive of history-taking and working with an adult) may take anywhere from one hour to several days. Even a routine examination may take upwards of four hours in a typical Veterans Administration audiology clinic. Add to this the time necessary for the selection or recommendation of a hearing aid (included here are other tests not used in the unaided evaluation). Add the last two ingredients—a serious shortage of audiologists and an abundance of clients—and it amounts to an audiologist who has little time (and little inclination) for the rehabilitation of the hearing impaired.

The typical clinical audiologist today is, indeed, a diagnostician. But he is asked to be more. The mantle of tradition is too difficult to discard by the audiologist and too difficult to ignore by the teacher. In many instances, the audiologist is well aware of his own limitations, his own interests, and his own talents, but he has little choice. He attempts to discuss the educational implications of his findings, but does not get them across. He counsels the parents of deaf children, but, in the eyes of the teacher, he fails. He is continually thrust into situations related to deaf children or rehabilitation and they make him uncomfortable. He is a diagnostician but he is asked to be more.

If this picture is a real one, what are the solutions? Two obvious ones come to mind. First, and the least desirable by far, is for the audiologist to relinquish his role in rehabilitation and/or in education and to make it very clear to everyone that he has done this. He measures hearing function, he makes diagnostic evaluations, he recommends or selects suitable amplification, and that is all. If both audiologists and teachers accepted this role, the chances are that interprofessional problems would be decreased significantly and audiologists and teachers would have even less to say to one another than they have today.

The second alternative is for audiologists, audiology training program directors, and directors of speech and hearing centers to work in earnest to revive the interest in and the enthusiasm for the rehabilitative aspects of audiology. But if this solution is accepted, then everyone must assume responsibility for preparing audiologists who have the information and experience that will enable them to make meaningful educational and rehabilitative recommendations to teachers, to parents, and to deaf adults. We are back to training! Unfortunately, if training program directors make a strong commitment to providing material related to the education and rehabilitation of deaf children and adults, they must then solve other problems that are created by this commitment. For example, how does one include, in the typical one year of graduate study, material related to both diagnostics and rehabilitation? Where does one find competent faculty to teach material related to rehabilitation and deaf education? Does the curriculum in speech pathology need to be changed, and if so, how? How does one generate enthusiasm for the rehabilitative aspects of audiology? These are only a few of the more obvious problems that need to be solved. The participants at Tucson addressed themselves to some of these problems and the next chapter presents some of their solutions.

CHAPTER IV

THE NATIONAL CONFERENCE ON AUDIOLOGY AND EDUCATION OF THE DEAF

A. Introduction

Shortly after the National Conference on Audiology and Education of the Deaf had convened at the Ramada Inn, Tucson, Arizona, Edgar Lowell, Conference Chairman, set the tone of the Conference by reading these words:

> "I send my best wishes for the success of this conference. From our many years of cooperative work with the American Speech and Hearing Association and the Conference of Executives of American Schools for the Deaf, the Vocational Rehabilitation Administration has gained many insights into audiology and special education as they contribute to the total rehabilitation of deaf persons.
>
> "Earlier we asked the two organizations to consider carefully their present and future plans, and to seek improved channels of effective interaction. We are very pleased with the fine progress that has been made. We consider it most significant for the educational achievement and employment of constantly greater numbers of deaf people. I am sure that this meeting will produce new understanding and provide a sound basis for finding the most progressive ways to help deaf persons master their special problems and live lives of satisfaction and usefulness.
>
> "As you all know, this program is especially close to my heart."—Mary E. Switzer, Commissioner, Vocational Rehabilitation Administration.

B. Goals

As explained earlier, one of the major goals of the two-year project was to develop and to increase channels of communication between audiologists and educators of the deaf. A major step in

this direction was taken at the Tucson Conference held in December, 1964. For three and one-half days, 77 participants addressed themselves to the same issues and problems discussed in the previous chapter: training, services, and interprofessional relationships. The purpose of the Conference, as stated in the letter of invitation, was "...to develop specific recommendations which may be implemented by the two parent organizations of the Joint Committee for the improvement of audiological services to the deaf. It [the Conference] will also prepare the conferees to provide leadership for a series of regional meetings on the same subject." It is important to point out that if an individual accepted the invitation, it was to be with the understanding that he would be willing to participate in the subsequent regional meeting to be held in his area. (Appendix F shows the chairman, vice-chairman, and the members of each regional meeting planning committee.)

C. Participants

The participants were drawn from the ranks of superintendents of schools for the deaf, directors of audiology and teacher of the deaf training programs, and directors of speech and hearing centers. The aim here was to bring together prominent individuals who have major administrative responsibility for their programs and who could, therefore, play an important role in effecting change. An attempt was made to obtain as broad a geographic distribution as possible and, at the same time, a distribution that would reflect the geographic concentration of programs. Thirty-one states plus the District of Columbia were represented. In addition to the 64 invited participants, there were 8 observers from federal agencies, 3 observers from the University of Arizona, and the author (a complete list of participants and their institutional affiliation at the time of the Conference, appears in Appendix F). All participants were selected by the members of the full JCAED and participation was restricted only because of limited funds.

D. Format

Several weeks prior to the Conference, participants received a packet of material containing, among other things, relatively brief summaries (including some tables) of the project data collected for each of the four areas: training, services in speech and hearing centers, services in educational programs, and the training and attitudes of audiologists and teachers. In addition to these data, statements and/or questions related to the data were included to stimulate and to focus the discussion.

The format of the Conference was a relatively simple one and incorporated some of the features of both the Highland Park Conference on Graduate Education in Speech Pathology and Audiology (ASHA, 1963) and the Virginia Beach Conference on the Preparation of Teachers of Deaf Children (Quigley, 1964). The Conference used both plenary sessions and group discussions. Plenary sessions were employed to present the data in the four areas, to present the resolutions and to vote upon them, and to allow for a discussion of the regional meetings. Group discussions followed the plenary sessions on all days except the last one. The conferees were divided into four groups, but the composition of each of the four groups, except for the chairman and recorder, was changed for each of the six discussion group sessions. Every attempt was made to see to it that there was an equal number of audiologists and educators assigned to each discussion group. As noted above, each group had a permanent chairman and a permanent recorder. At the end of each day, the recorders from each group met with the individuals who had presented the data during that same day. A summary of all four group discussions dealing with a particular topic was prepared and mimeographed. At the plenary session on the following morning, copies of the summary were distributed to the participants and discussed briefly.

Two other points concerning the program should be noted. First, the Executive Committee or the Joint Committee decided that while resolutions should be formulated and voted upon by the participants, the number of resolutions should be strictly limited to those that were important and relevant to the purposes of the Conference. As a result, only 29 resolutions were proposed and voted upon, but these, we think, meet the two criteria of importance and relevance. Secondly, a subject was placed on the program that, although not strictly relevant, is of considerable importance to both audiologists and educators. That subject dealt with definitions of deafness and it was presented by S. Richard Silverman. No questionnaire was used to survey opinions and no data were collected, but the JCAED believed that the subject was of such profound importance, that it deserved serious consideration by the conferees. The results of this consideration are presented later.

E. Results

It is impossible to capture in words, the flavor of the Conference including the great enthusiasm, motivation, and interest demonstrated by all the participants. Out of the interaction and interchange of opinion seemed to come a deeper appreciation and

a greater understanding of the responsibilities and problems confronting each professional group. There was also evidence of a mutual desire to assist, in whatever way possible, in the solution of these problems.

It is always difficult, and sometimes impossible, to evaluate objectively the success of a meeting of this type. Fortunately, there was one way of estimating the success of the Tucson Conference. Each of the invited participants had a responsibility relative to the regional meeting to be held in his area. The fact that this responsibility was discharged with enthusiasm, skill, and success attests, in a very real way, to the achievements at Tucson and to the continuing interest and involvement of the participants.

Perhaps the most meaningful way to handle the results of the Conference is to present some of the highlights of the group discussions that took place on each of the four major topics, to present the resolutions related to each topic, and to include any discussion material related to these same resolutions. That some resolutions overlap several different topics will become evident later on. (Much of the following material is based on the summaries of the group discussions as provided by the recorders of these discussions.)

Training. Before becoming involved in curriculum content, the conferees attempted to define the roles, duties, and responsibilities of the clinical audiologist as compared with those of the teacher of deaf children.

Both areas are concerned with assessment and prognosis, and the common ground between audiologist and teacher is the management of the deaf child. The audiologist is involved with the assessment of communicative skills and the degree to which these skills can be improved, considering the basic sensory system of the child. The audiologist, therefore, should be familiar with the history, philosophies, and techniques of instruction so that he can make suitable prognoses. The teacher, on the other hand, must have sufficient knowledge regarding hearing and hearing loss, acoustics of speech, the use of residual hearing with amplification, and so on, in order to understand an audiologist's recommendations and to use these recommendations effectively.

In further defining the roles and responsibilities of audiologists and teachers, discussants agreed that the clinical audiologist is concerned primarily with impairment. He is concerned with a sensory problem. As he deals with the management of deafness he becomes involved first with assessment. This assessment must encompass an interpretation of medical and psychosocial data including data on perceptual skills. Next, he makes predic-

tions and referrals. For this, he must know the education of the deaf, its history, philosophy, and current problems. Third, he must validate his predictions by following the child through school and post-school years. Meanwhile, the teacher is primarly concerned with the educative process, with curriculum, with instruction, and with the assessment of the educational accomplishment.

In an attempt to define and clarify the role of the audiologist, the participants agreed on the following two resolutions:

> RESOLVED that it be recognized that audiologists should participate in the habilitation and rehabilitation, as well as the identification, evaluation, and assessment of hearing handicapped individuals.
>
> WHEREAS clinical audiology encompasses many aspects of hearing and deafness, and WHEREAS recent emphases have conveyed an impression that hearing testing and audiologic evaluations are the sole functions of the clinical audiologist, RESOLVED that among the contributions of a clinical audiologist are the following:
>
> 1. Assessment of hearing function and communication skills.
> 2. Interpretation of the results of the assessment.
> 3. Application of psychoacoustic and auditory information to all aspects of aural rehabilitation.[1]

There was near unanimous agreement on the following general resolution related to training, a resolution encouraging ASHA and CEASD to work jointly in the improvement of curricula in each area:

> WHEREAS there is general agreement that the training of specialists in the disciplines of clinical audiology and education of the deaf should include certain appropriate information, skills and attitudes about the other disciplines, and WHEREAS there is a need for guidance as to the specific nature of knowledge, attitudes and skills, RESOLVED that the two groups, ASHA and CEASD, be encouraged to set up a joint committee to make recommendations concerning these areas,

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[1] *All the resolutions, including the votes on each resolution, are presented in Appendix G. It should be noted that for each resolution, a participant could indicate that he agreed with the resolution, agreed with reservations, disagreed, strongly disagreed, or abstained from voting.*

in order that the inclusion of appropriate curricula in each area be fostered.

Although no resolution was voted upon dealing with specific aspects of curriculum, conferees did address themselves to this question. Three areas related to education of the deaf were seen as important in the training of audiologists: (1) knowledge of language and the language disorders caused by deafness; (2) knowledge of the history of the education of the deaf, the controversies over educational philosophies, and an understanding of how these controversies developed; and (3) knowledge of the psychology and the social aspects of deafness.

The following audiologic areas were seen as important in the training of teachers: (1) knowledge of audiologic techniques, including audiometry and audiometric interpretation; (2) practical knowledge concerning the use of residual hearing; (3) anatomy and physiology of hearing; and (4) basic psychoacoustics plus some knowledge of the acoustics of speech signals.

Three major methods for providing additional curriculum material were suggested. These were directed and supervised observation with children and adults, active participation with both children and adults, and academic courses that would be designed specifically as basic courses in audiology for teachers, and basic courses in deaf education for audiologists. In recognition of the fact that the inclusion of additional course work, practicum experiences, and observational opportunities would very likely require additional academic preparation, three resolutions were formulated. The first dealt with the preparation of audiologists:

> WHEREAS the body of knowledge, attitudes and skills deemed necessary for the proper training of clinical audiologists has increased substantially in recent years, and WHEREAS knowledge of deaf children and their education is deemed important for the appropriate training of audiologists, RESOLVED that a minimum period of two post-baccalaureate academic years be required for the training of clinical audiologists in order to incorporate this body of knowledge into their training.

Although nearly all the participants expressed agreement with the resolution, more than half of the audiologists agreed with reservation. The reservations were related not to the two years of post-baccalaureate training but to the implication that the two years would be devoted solely to deaf education. This, however, was not the intent of the resolution, since it is obvious that much of the training of audiologists is already on the graduate level and

that much of this graduate training is, and must be, related directly to audiology. The intent, then, of the resolution was that a portion of the post-baccalaureate training of audiologists be devoted to the education of the deaf and that the portion be larger than it is at present.

The second and third resolutions dealt with the training of teachers and were as follows:

> WHEREAS the body of knowledge, attitudes and skills deemed necessary for the proper training of teachers of the deaf has increased substantially in recent years, and WHEREAS knowledge of the field of clinical audiology is deemed important for the appropriate training of teachers of the deaf, RESOLVED that a minimum period of two academic years be required for the training of teachers of the deaf in order to incorporate this body of knowledge into their training.

and

> WHEREAS a problem area making for difficulty in achieving satisfactory relationships between teachers of the deaf and audiologists appears to arise from the differing academic degrees associated with specialists in the two fields (most teachers of the deaf are reported to have either bachelor's or master's degrees while most audiologists have master's or doctoral degrees), and WHEREAS higher education has dual objectives insofar as the education of teachers of the deaf is concerned—namely, broad education for purposes of self fulfillment and responsibility as a citizen, and also specialized training leading to competence as a teacher of the deaf—and WHEREAS these dual objectives cannot be successfully accomplished in undergraduate programs, RESOLVED that this conference recommends that graduate specialized training in teaching the deaf be superimposed upon a baccalaureate degree.

At first glance, these two resolutions appear contradictory, and this may be one of the reasons for the split votes that were noted on each resolution. (It should be pointed out that although the resolutions appear together here, the vote on the second resolution took place at a later point in time with considerable intervening discussion on somewhat unrelated points.) Although there was general agreement that audiology should be incorporated into teacher training, about half of those agreeing had reservations.

These reservations seemed to be related to the following two points: (1) the necessity of requiring graduate training of teachers if much audiology were to be incorporated into the teacher training curriculum; and (2) the implication that the two academic years would be devoted primarily to audiology even though this was not the intent of the resolution. It is important to emphasize that despite the discussion and the "hints" one gets from the discussion about how the vote is going to go, it is impossible to know exactly what "reservations" individuals had about a particular resolution. The explanations provided here and below are based partially on the discussion material but are also partially speculative.

The second of the two resolutions (see above) is the broader one by far and presents the case for graduate training of teachers of the deaf. Of the 29 educators voting on this resolution, 18 agreed or agreed with reservations while 9 either disagreed or disagreed strongly. The remaining 2 educators abstained. Twenty-six audiologists voted on this resolution (there were 6 abstentions); 20 agreed (but 9 of these had reservations) and 6 disagreed, 2 strongly. The split votes are probably a reflection of a number of factors, including disagreement or reservations over the need for graduate training of teachers, the lack of specificity about the content of the graduate training, the fact that training in audiology was not included in the resolution, and so forth. The important point, nevertheless, is that the majority of both groups agreed with the recommendation that "...graduate specialized training in teaching the deaf be superimposed upon a baccalaureate degree."

Discussion also centered around the qualifications of individuals who would be involved in teaching courses in audiology to teachers of the deaf and vice-versa, assuming, of course, that there would be increased emphasis in training programs on the "other" field. Four resolutions dealing with personnel created considerable controversy at first, but the controversy appeared to be resolved after some discussion. The first two resolutions dealt with personnel teaching courses in audiology to teachers and were as follows:

> RESOLVED that individuals engaged in teaching courses in audiology to students who are training to be teachers of the deaf shall have ASHA certification in audiology.

and

> RESOLVED that the significant variable to be considered in determining who shall teach audiologic content to students

who are training to be teachers of the deaf is knowledge of the content. Clinical certification by ASHA may or may not be relevant in this determination.

The difference between the two resolutions is readily apparent. In the first instance, ASHA certification is the principal criterion. That this is not enough is reflected in the fact that only 8 audiologists agreed with the resolution while 17 disagreed. Nearly half of the educators also disagreed with the resolution. In opposition to the resolution, one participant said, in words to this effect: "Do you mean to tell me that Dr. Von Bekesy is not qualified to teach anatomy and physiology of hearing to teachers because he does not have ASHA certification?" The second resolution, with its emphasis on expertise and knowledge of content as the principal criterion for teaching, drew near unanimous support.

Essentially the same resolutions were presented about educators who are involved in the training of audiologists. These two resolutions were:

RESOLVED that individuals engaged in teaching courses in education of the deaf to audiology students shall have appropriate certification by the CEASD.

and

RESOLVED that the significant variable to be considered in determining who shall teach courses in education of the deaf to audiology students is knowledge of the material. Certification by CEASD may or may not be relevant in this determination.

An interesting point here is that while audiologists disagreed with the first of these resolutions (as they did with the one specifying ASHA certification), 75 percent of the educators expressed agreement with the requirement for CEASD certification, a point of view different than the one they expressed about ASHA certification. It would seem that the argument that involved Dr. Von Bekesy could be extended to include Dr. Alexander Ewing. Nevertheless, the resolution placing the emphasis on competence and knowledge rather than on certification received the support of both groups.

The participants also addressed themselves to the problem of teachers and audiologists who, although employed professionally, may need additional information and training in their own field. The following resolution received a vote of agreement from all

the participants except one, although some reservations were noted, especially among the educators of the deaf. The reasons for these reservations are not clear.

> WHEREAS among the greatly increased numbers of both teachers of the deaf and audiologists, some may lack skills and knowledge in teaching the deaf and in audiology, RESOLVED that appropriate public and private agencies be requested to sponsor regional and local workshops, in-service institutes, short-term courses, and other mechanisms for providing continuing professional education of these specialists.

The next resolution is related to both training and attitudes. It expresses the unanimous opinion that there is a need for teachers and audiologists who are in the field to be exposed to training in the other area and that this exposure can lead to improved attitudes. The resolution is as follows:

> WHEREAS we recognize that attitudes can be improved whenever two separate professions relate to each other, RESOLVED that means be found whereby teachers of the deaf and audiologists presently actively engaged in their professions, be given the opportunity of having in-service training (including observations, demonstrations, and/or course work) in each other's area and institutions.

Obviously, the implementation of this resolution would not only lead, to improved attitudes, but also to improved services.

Services in Speech and Hearing Centers. The next subject presented and discussed at Tucson dealt with services provided by speech and hearing facilities to deaf clients. The role of the speech and hearing center with relation to the preschool deaf child received considerable attention. There seemed to be a consensus of opinion that at the preschool level, primary responsibility for management lies with the audiologist and the center. The responsibilities of the center include: (a) identification of the deaf child; (b) educational management of the deaf child from the time he is identified until he is eligible for a school program; (c) appropriate educational referral; and (d) providing meaningful information to the educational program in which the child is enrolled.

Each of the above four points was elaborated upon. In the identification of the child, emphasis was placed on the fact that the speech and hearing center is in a good position to draw upon the skills of other specialists (neurologist, psychologist, and others).

In fact, other specialists must be utilized, especially when the child presents a problem in differential diagnosis. The following resolution, related to this point, received overwhelming support:

> WHEREAS the effective management of the hearing impaired child is contingent upon thorough evaluation of his handicap, RESOLVED that every hearing impaired child should have as early as possible, complete medical, audiologic and psychologic evaluations, and reevaluations as necessary.

With respect to educational management at the preschool level, two major points were made in the discussion groups and each point received further emphasis by means of a resolution. First, discussants believed strongly that preschool education of deaf children is a public educational responsibility and should be publicly financed to a much greater extent than at the present time. It was stressed that the ability to take advantage of preschool educational opportunities should not be contingent upon the ability of parents of deaf children to pay tuition fees. The following resolution on this point received unanimous support:

> WHEREAS early identification and education of the hearing impaired child is of vital importance, and WHEREAS in certain areas these services are not available, RESOLVED that the responsibility for identification, education and training of the preschool hearing impaired child is a public one and should have public financial support.

The second point with respect to preschool education focused on personnel. There was consensus that if a speech and hearing center provides educational services, these services should be provided by highly skilled and knowledgeable personnel. It was pointed out that a teacher of deaf children may not be competent here if his background does not include experience and training relevant to infants and young children. Indeed, some audiologists today have the necessary background and may be able to provide the required services. A broader resolution, emphasizing the various responsibilities of the speech and hearing center, but also focusing on personnel, received strong support.

> WHEREAS the hearing and speech center is often engaged in the early identification, assessment, habilitation, and rehabilitation of the hearing impaired child and guidance of his parents, RESOLVED that such centers employ personnel

knowledgeable about and familiar with the educational alternatives available to such children. It is emphasized that this knowledge and familiarity include the education of deaf children.

Another resolution dealt more specifically with the role of the educator and drew mixed reactions. Eleven audiologists disagreed (two strongly) although the majority of the participants expressed support for the following resolution:

> WHEREAS the identification, assessment, habilitation, and rehabilitation of the hearing impaired child is a complex task, RESOLVED that when appropriate, the educator of the deaf should participate in all of these activities.

It was probably the use of the world "all" in the last line of the resolution that caused the disagreement on the part of the audiologists. For example, in some circumstances it may not be possible to include an educator in the assessment of a hearing impaired child. Under other circumstances, say in a public school identification audiometry program, it may not be necessary or even desirable to have an educator participate. A slight modification of the resolution, limiting its scope, probably would have resulted in greater agreement.

The last two responsibilities of the speech and hearing center with respect to the preschool deaf child involve educational referral and providing meaningful information to the educational program in which the child is enrolled. There was agreement among the discussants that the preschool program should relate to the primary school program in such a way that a minimal education loss occurs in the transfer of the child from one program to the other. The primary school program for the individual child should be planned on the basis of the preschool program, taking into account the language skills and the progress the child has made at the time of leaving the preschool program. As far as providing information is concerned, the participants agreed that the speech and hearing center has primary responsibility for summarizing and coordinating information on the preschool child. In addition to providing information, the audiologist must also make a prediction about the child's potential. It is these predictions that have frequently caused difficulty between audiologist and educator despite general agreement that, the younger the child, the more difficult it is to make an accurate prediction about potential. It was noted, however, that the accuracy of the audiologist's prediction will increase as he has greater opportunity to follow the child after the child has been enrolled in the educational program.

What is the role of the speech and hearing center and the audiologist with respect to school-age deaf children? Because audiologists are frequently consulted about the development of special classes for deaf children, the following resolution was proposed and received strong support:

> WHEREAS educational programs for hearing impaired children may be initiated, and WHEREAS the audiologist may have an opportunity to provide consultative services to the agency involved, RESOLVED that when the audiologist is consulted concerning the founding of new programs for the deaf, he should be familiar with the requirements for sound educational programs, including knowledge about homogeneity of classes, necessity of supervisory personnel, appropriate class size, adequate teacher preparation, suitable physical environment, and equipment for the program.

There was a general consensus that the speech and hearing center should not be responsible for providing pre-vocational, social, and psychological services for deaf children, Rather. the center's responsibility lies in making appropriate referrals to community resources and in being alert to the need for additional services when conducting audiologic evaluations. The task of the audiologist, again, is more than just measurement.

A good deal of consideration was given to the relationships between speech and hearing centers and schools for deaf children. The participants expressed concern over the finding that so few speech and hearing centers receive referrals from educational programs. Several explanations were offered to account for this unfortunate situation: (1) Lack of communication was seen as the principal reason for the low referral rate. (2) Some educators have often been disappointed with the audiologic information received, and this, combined with instances of misdiagnosis, has led to a loss of confidence in a number of speech and hearing centers. (3) Speech and hearing centers have variable kinds of programs and the quality of these programs is just as variable; thus, the educator often cannot be assured that he is receiving high level audiologic services. (4) Some educators believe that there is little additional audiologic information that can be provided about a child after the child has been in the educational program for several years.

The speech and hearing center's role vis-a-vis the residential school was seen as a supplement to, and supportive of, the residential school program. It was pointed out that the role of the center would be facilitated if schools contracted, even for a

minimal fee, for audiologic services, including admission information and follow-up evaluations. This procedure would insure that specific information was forwarded to the proper destination—the school. The employment of a school audiologist, it was emphasized, should not further isolate the school from the speech and hearing center. Audiologic data relative to admission should still be obtained at the speech and hearing center. The reason for this is while the school audiologist provides many valuable services, the school cannot provide the complete evaluative services (medical, psychological, and so on) that are frequently available to speech and hearing centers, particularly those centers located in medical institutions.

Some attention was given to the special problems facing the teenager or the young adult who is no longer enrolled in a special education program. All discussion groups agreed that the speech and hearing center is not necessarily the focal point for this group. The center should, however, offer audiologic services to teenagers and young adults, placing emphasis on the assessment of hearing function and the role of hearing in the young person's life. Other services can be offered, but background information about the person should be obtained from the educational program, and the services should be offered by appropriately trained professional personnel. Perhaps the greatest service the center can provide is to refer the individual to appropriate community facilities. Even though the above suggestions were to be carried out, there was a strong feeling that there would still be a significant void in the audiologic and educational services available to the young deaf adult. In recognition of these voids, the following two resolutions were offered:

> WHEREAS there are significant numbers of young deaf adults who have terminated their formal education but who still require continued educational and/or habilitative services, RESOLVED that hearing and speech centers should consider the possibility of offering such services with appropriately trained professional personnel.
>
> and
>
> WHEREAS the vocational problems of deaf persons often are as significant as their educational and communication problembs and are not always solved during the educational years, RESOLVED that there should be at least one rehabilitation counselor for the deaf in every state. He should be professionally qualified in the area of the deaf.

The latter resolution received unanimous support. The former resolution drew mixed support probably reflecting the uncertainty about exactly who should assume the responsibility for the young deaf adult (8 of the 29 educators disagreed with the resolution as did 4 of the audiologists).

There was some discussion, but no agreement, about who should assume major responsibility for providing services to the deaf adult. The discussants agreed that, as with the teenager, the deaf adult has no focal point for service or rehabilitation, but they were uncertain if the speech and hearing center should provide these services. One suggestion was that at least one staff person at the speech and hearing center should be trained in manual communication. At least, if a deaf adult did request services, someone at the center would be able to communicate easily with him. Of course, the resolution dealing with the rehabilitation counselor (see above) is as important to the deaf adult as it is to the deaf teenager.

It is apparent, from a review of the preceding discussion, that most of the discussion and the resolutions dealing with speech and hearing services to the deaf revolved around the preschool deaf child. This is not to say that this topic was the most important one. In some respects, the problems related to the deaf teenager or deaf adult are even more profound. Unfortunately, there was only a limited time allotted to discuss each topic. By the time the participants got around to discussing other than the preschooler, much of the discussion time had elapsed. Hopefully, participants in the regional meetings will have had a greater opportunity to discuss in detail the educational, audiologic, and rehabilitative problems of the deaf teenager and the deaf adult.

Audiologic Services in Educational Programs for the Deaf. The two major areas discussed under this topic dealt with the role of the audiologist in an educational program and the qualifications and competencies of personnel providing audiologic services.

The discussants saw the audiologist's role as a broad, service-oriented one, one that would contribute significantly to the overall educational program. Among the services that the audiologist could provide, the following are perhaps the most important: (a) a complete audiologic evaluation of children related to their admission to the educational program; (b) annual assessment of the children's hearing, including the interpretation of the results to the teachers, with the latter being a particularly important service; (c) hearing aid selection, orientation, and maintenance; (d) application of the audiologist's knowledge about speech perception and speech pathology to the speech problems (including speech development) of deaf children; (e) in-service training to

help keep teachers abreast of new techniques and new information; (f) parental counseling; (g) evaluation, application, and selection of the amplifying systems and equipment used in the school; (h) liaison between the school and college and university training program and/or the community speech and hearing center; and (i) research.

The research activities of the school audiologist were singled out for special attention. It will be recalled that the development or expansion of an audiologic research program received highest priority from administrators of deaf education programs who have staff audiologists. In a sense, the Tucson participants supported this priority. It was suggested, for example, that administrators should be encouraged to contact college and university audiology training programs to develop research programs that would be of mutual interest and benefit. It was also pointed out that an active research program in an educational setting might serve as a strong inducement for audiologists to join the school staff. The following resolution drew agreement from all but one of the participants:

> WHEREAS schools for the deaf present fertile areas for audiologic research, and WHEREAS audiologic service is the primary responsibility of the audiologist in an educational program, RESOLVED that where research projects become a part of the audiology service in schools for the deaf, specific personnel be provided for such research projects apart from the audiological service aspect.

Although general agreement was noted, nearly half of the participants expressed some reservations. These reservations were almost certainly not directed at the "Whereas" portions of the resolution. It is more likely that the audiologists had some reservations about the "service" audiologist being excluded from research activities while educators may have been concerned about the cost of adding an additional staff member who would not provide services. Despite the reservations, there was still strong support for the idea that schools offer fertile ground for audiologic research and that this research should be promoted and supported.

A more general resolution with respect to services focused on the need to develop service programs for hard of hearing children enrolled in the public schools. The following resolution received near-unanimous support:

> RESOLVED that efforts should be made toward development of more extensive therapeutic and educational programs for

hard of hearing children enrolled in public schools. These efforts should be specially directed to consideration of methods of providing such services to children who may be in widely scattered geographical areas.

Although no "whereas" statement was included in the resolution, the obvious implication is that the participants believed that the needs of hard of hearing children in many communities are not being met by current public school programs.

Considerable time was spent discussing the qualifications and competencies of personnel providing audiologic services in educational programs. Although it was recognized that there is a need for such services (see below), recognition was also given to some of the problems created by having an audiologist on the staff. Some of these problems include the expense involved, particularly if a full-time audiologist is not needed, the possible isolation of the audiologist from the mainstream of audiology, and the competition created with local speech and hearing centers. That the advantages of having a staff audiologist strongly outweigh the disadvantages is reflected in the strong support given to the following two resolutions:

WHEREAS there is a need for audiologic services in educational programs for the deaf, RESOLVED that a full-time audiologist should be an integral part of the educational program for deaf children. The audiologist should be regarded as a full participating member of the instructional staff.

and

WHEREAS full-time audiologic services are not possible in some educational programs for the deaf, RESOLVED that part-time services should be utilized as fully as possible until full-time services can be provided.

The first of the two resolutions reflects the need for the school audiologist to be part of the total educational scheme, to be a full participating member of the program. The reservations expressed by a little over one-fifth of the audiologists may be related to the inclusion of the audiologist as a member of the "instructional" staff in that the audiologist's duties are not typically instructional in nature. The resolution, however, did not intend to imply that the audiologist's duties were instructional in nature. The second resolution indicates recognition of the fact that some educational

programs may not want, need, or be able to obtain the full-time services of an audiologist. The participants are emphasizing that in these instances, half-time services are better than no services.

In terms of the qualifications of audiologic personnel, some concern was expressed that audiology training programs are not placing enough emphasis on those areas seen as most important and useful by educators. Hopefully, the implementation of some of the recommendations contained in this report will reduce this concern.

None of the participants disagreed with the following resolution, a resolution specifying that audiologists in educational programs should have ASHA certification in audiology.

> RESOLVED that an audiologist in an educational program for the deaf should be one who holds ASHA clinical certification in audiology. In the absence of certification, he should meet the academic and practicum requirements and be working toward completing the professional experience requirement.

The implementation of this resolution would go a long way toward insuring that school audiologists met certain standards with respect to academic training, clinical practicum, and professional experience. Until audiology training programs increase their emphasis on education of the deaf, however, considerable on-the-job training may still be necessary before most audiologists can function effectively in a school setting.

In at least one discussion group, considerable emphasis was placed on the attitudes of the audiologist employed in an educational program. In fact, the consensus of this group was that attitude was as important in the selection of an audiologist as aptitude. Other discussion groups agreed that good rapport between audiologist and teacher depends to a great extent on the interest in, and concern about, deaf children expressed by the audiologist as well as his involvement in the total educational program.

The use of audiometrists in school programs was also discussed. In large programs, it may be impossible for a single audiologist to provide all the audiologic services required. Even in a smaller program, care must be taken to see to it that the audiologist's time is utilized in such a way as to obtain maximum benefit from his training and experience. In these instances, as well as under other circumstances, an audiometrist can play an important supportive role. Nearly all of the audiologists at Tucson indicated agreement with the following resolution but there was less enthusiastic support among the educators. In this group, 10

expressed agreement, 12 agreed with reservations, and 6 disagreed, 3 strongly. Here, then, is the resolution:

> WHEREAS an audiometrist (for example, nurse, teacher or other person) may serve a useful function in an educational program for the deaf but is not competent to function alone, RESOLVED that this person work only under immediate and direct supervision of an audiologist.

There are several possible reasons for the reservations expressed by the educators. One possibility is that the educators objected to the use of teachers or school nurses as audiometrists. Another reason may be that some educators have seen competent audiometrists function effectively by themselves, at least under certain circumstances. A third explanation for the reservations may lie in the stipulation that audiometrists work only under the supervision of an audiologist. Again, though, the important point is that there was general agreement on the usefulness of audiometrists in educational programs.

Some attention was devoted to the need to alert audiologists to the clinical and research opportunities available in schools for the deaf, and a resolution was passed to this effect. There was no disagreement with the following resolution:

> WHEREAS there is a shortage of audiologic services and personnel in educational programs for the deaf, RESOLVED that ASHA and educators of the deaf should inform audiologists of the opportunities in educational programs for the deaf.

Although no resolution was formulated, there was group consensus that CEASD should also make a concerted effort to inform its members of the value of audiologic services in a school for the deaf.

Audiologic facilities in educational programs received rather brief attention. Two points were made: (1) The nature and extent of the audiologic program dictates the nature and extent of the audiologic facilities. (2) Expenses related to obtaining adequate audiologic facilities can be met if administrators are interested in, and committed to, providing a sound audiologic service program.

Attitudes and Training of Audiologists and Teachers. Much of the Conference material related to training has been presented earlier, so this section will focus primarily on attitudes. It was generally agreed that interprofessional relationships are not as

good as might be desired. It was also agreed that there was some justification for some of the negative attitudes that exist. It was emphasized, though, that the unique relationship between audiologist and teacher, plus the extent to which an individual makes generalizations about an entire profession on the basis of limited observations or experience, may also account for some of the poor attitudes. It was recognized that interprofessional problems are not unique or limited to audiologists and teachers. Many other professions that interact face some of the same problems. One method these professions have used to solve some of their problems has been to appoint an interprofessional committee such as the JCAED.

There was a detailed examination of the bases of present attitudes. Some of the factors contributing to poor attitudes and poor interprofessional relations were as follows: (a) differences in level of training, academic degree, salary, status, and mobility; (b) physical as well as psychological separation; (c) encroachment of a new field on an old one, accompanied by the attitude that members of the new field are insensitive to the history and tradition of the older profession; (d) pride in separate professions instilled in training programs; (e) potential threat, real or imagined, posed by audiologists who have specialized in depth in one narrow area of education of the deaf; (f) information flow generally in one direction—from audiologist to teacher; and (g) confusion and lack of clarity about the roles of audiologists and teachers.

Resolutions about attitudes and attitude change are difficult to formulate. One resolution proposing steps for increasing interprofessional communication and understanding received a unanimous endorsement:

> WHEREAS communication and understanding are necessary between the audiologist and the teacher of the deaf, RESOLVED that state, local, and area meetings or workshops be encouraged to share, develop, or discuss research techniques, service programs, and other matters of common interest as a way of improving communication and understanding between the two groups.

Although this was the only resolution related to attitudes, the discussion groups did suggest a number of other steps that might improve interprofessional relationships. Among these steps were the following: (a) setting examples of desired behavior and attitudes at the top administrative levels, among superintendents, program directors, and others; (b) state and local area meetings, including local coordinating councils; (c) joint communication on

cases and developing better mechanisms for such communication; (d) utilization of new audiovisual techniques as a method of improving communication and understanding; (e) formation of or continuation of existing liaison committees; and (f) special sections in professional organizations and at professional meetings.

Finally, the discussion groups seemed agreed on two other points. First, that there appears to be an improvement in the attitudes of younger teachers and second, that audiologists and educators interested in affecting attitude change are not applying all of the psychological information and techniques that are available to bring about such change. It seems, though, that if only half of the steps recommended in this report are adopted, significant and positive changes in attitude will result.

Definitions of Deafness. As was noted earlier, time was set aside at Tucson to discuss problems related to definitions of deafness and to attempt to arrive at a definition of deafness that would be acceptable to both audiologists and educators. It quickly became obvious that insufficient time had been allotted for this discussion. Indeed, it became obvious that an entire conference could (and probably should) be devoted to "definitions." Several definitions were formulated but were not voted upon. It was agreed that these definitions would not be included in this report because insufficient time had been given to both their formulation and their consideration.

The summaries of the group discussions did suggest some agreement on the following points. First, it was emphasized that the problems of definitions of deafness are not academic problems but are very real, current, and important problems. Further, these problems must be solved because day-to-day decisions are being made on the basis of whatever definitions are currently available. Second, and this was a point made in each discussion group, there is no one definition of deafness. Rather, there are different definitions for different purposes and different uses. What may be an appropriate definition in one context, may be completely inappropriate in another. The concept of different definitions for different purposes also implies that a definition is not and cannot be static. Finally, an argument was made in one group that new definitions not be developed. The reasoning was not that the current definitions are adequate but rather that definitions of deafness, perhaps because they have been used as if they were the definitions, have handicapped educational imagination and diversification. It is apparent that the whole area of definitions of deafness needs much further thought, discussion, and consideration than it was possible to give to it at Tucson.

General. Two general resolutions were formulated, each of which received strong support. The first is a plea for total community planning and action in order that the many needs of hearing impaired children and adults be met. That resolution is as follows:

> RESOLVED that a most promising and productive mechanism for meeting the total needs of hearing impaired children and adults involves total community (district, regional, state, etc.) planning in which all involved state and private agencies, individuals and associations participate. These include health, welfare, education, and other professional groups.

The second and final resolution, and the only resolution on which there were no reservations and no abstentions, sums up the great progress made at Tucson and indicates the kind of commitment the participants had to the goals of the project and the Conference:

> WHEREAS the National Conference on Audiology and Education of the Deaf, held in Tucson, Arizona, December 7-10, 1964 proved invaluable in bringing together workers in both fields who were interested and responsible, and WHEREAS these workers were able to identify mutual problem areas and make considerable progress in possible solutions of these mutual problems, and WHEREAS such a meeting of involved workers appears to be an ideal vehicle for free communication of mutual problems and possible solutions, RESOLVED that those present at this conference be strongly committed to continue this open communication through active participation in the proposed regional meeting, and further through individual efforts to establish and maintain channels of communication with involved workers at the state and local levels.

CHAPTER V

THE WHITE PLAINS MEETING ON AUDIOLOGY AND EDUCATION OF THE DEAF

A. Introduction

On April 2 and 3, 1965, the first regional meeting on audiology and education of the deaf was held at the New York School for the Deaf in White Plains, New York. Seventy-five participants,[1] many of whom were practicing audiologists and teachers of the deaf, met to discuss many of the same issues and problems that were discussed at Tucson. The regional meeting was planned, organized, and conducted by the members of the Region II planning committee, Roy Stelle, Chairman (see Appendix F for the names of the members of the planning committee).

B. Purposes

The purposes of the White Plains meeting were as follows: (a) to bring together audiologists and educators of the deaf to discuss means by which improved audiologic services could be offered to the deaf; (b) to disseminate and to discuss data related to the training of audiologists and teachers of the deaf, services provided by audiologists to the deaf, and attitudes of audiologists and teachers; (c) to react to the resolutions adopted by the participants in the National Conference on Audiology and Education of the Deaf; and (d) to evaluate the feasibility of conducting a series of similar meetings throughout the United States.

C. Format

The format of the meeting was essentially the same as that used for the Tucson Conference. Each participant received brief summaries of the survey data and a copy of the Tucson resolutions. Four plenary sessions were utilized to present the data,

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[1] *The number of participants would have been greater were it not for the fact that the regional meeting was held at the same time as a meeting of the New Jersey Speech and Hearing Association.*

with group discussions following each plenary session. There were five discussion groups, rotating group membership, and a permanent chairman and recorder assigned to each group. It should be noted that the results and conclusions presented below have been abstracted from the excellent notes of the recorders. Here, then, are the results of the White Plains meeting on audiology and education of the deaf.

D. Results

Training. While there seemed to be good agreement about the need for graduate training of audiologists, opinion was divided over the need for post-baccalaureate training for teachers. Problems in teacher-audiologist relationships were seen, in part, as a function of their different levels of training.

A good deal of the discussions centered around the knowledge, concepts, and competencies needed by the well-trained audiologist and teacher. Frequent reference was made to a core curriculum for both audiologists and teachers but little agreement on what the "core" should contain. Some of the courses that were suggested for both specialists included psycholinguistics, auditory processes, speech and language development, learning theory, and child psychology.

There seemed to be relatively substantial agreement that: (a) students in one area should be exposed to course work in the other; (b) teaching education of the deaf courses to audiologists (and vice versa) should be done by individuals fully qualified in the area in which they teach and that certification may or may not be a valid indication of competence; (c) teachers need specific academic preparation that would help them to interpret audiologic data; and (d) students in audiology need specific exposure to deaf children and that this exposure can best be obtained in schools and classes for the deaf.

Services in Speech and Hearing Centers. The majority of the discussion groups focused on the role of the speech and hearing center in the evaluation and management of the preschool deaf child. There seemed to be fairly general agreement that preschool programs in speech and hearing centers should not duplicate or overlap the educational services available at the local school for the deaf. On the other hand, the center can play an important role, as far as the preschooler is concerned, through audiological evaluations, recommendations concerning amplification, differential diagnoses, and parental and educational counseling. "There was strong support for the principle that when a . . . center assumes the responsibility for helping a parent select an

educational program it is obligated to know the quality, objectives, the merits of available programs, as well as the deficiencies, disadvantages of these same programs."

It was recognized that a variety of personnel need to get involved in the evaluation and management of the preschool deaf child. It was also recognized that the teacher of the deaf has an important contribution to make, particularly in the area of language development. Since many centers do not have a teacher on the staff, it was suggested that perhaps the speech pathologist could play this role. There were some reservations about this idea, although it was felt that much would depend on the training and the attitude of the speech pathologist. One point that did come up several times was the need for adequate counseling, particularly with respect to adjustment problems. It was felt that other resources—guidance counselor, vocational counselor, psychologist—should be called upon, whether within or outside the center, to deal with these problems. Several groups concluded that the services offered by a center should be governed by the capabilities of the center's staff.

One discussion group did focus somewhat on the needs of the young adult and older person. "Discussants felt that the speech and hearing center—practically and ideally—should be the link between the deaf person no longer enrolled in a formal educational program and the vocational and social agencies."

Audiologic Services in Educational Programs for the Deaf. Considerable discussion centered around (a) the need for an audiologist in an educational program, and (b) the role of the audiologist if employed in such a program. There appeared to be reasonably good agreement on the need for an audiologist in a school for the deaf. One discussion group did point out several advantages of utilizing audiological services within a medical setting and another group indicated that the need to employ an audiologist is most pressing when speech and hearing services are not readily accessible elsewhere.

Once the audiologist is employed in a school, what does he do? Most participants agreed that the audiologist in a school setting must be much more than a "hearing tester" or "diagnostician." Some of his other responsibilities should include the evaluation of lipreading competence, hearing aid evaluations, parental counseling with respect to hearing aid usage, in-service training and refresher courses for teachers, assistance with the auditory training program, and the transmission and interpretation of research findings.

Some opinion was expressed, at least in one group, that an audiologist in a school for the deaf should be prepared to evaluate

language and linguistic function. "Generally, the audiologists disagreed with this opinion." It was then proposed that a speech pathologist or "language specialist" might be the more appropriate person to work with the speech and language problems of the deaf.

The same group discussed the research function of the audiologist in a school for the deaf. Those opposed to the use of a school as a research facility felt that an emphasis on research would tend to disrupt the educative process which, in turn, might delay achievement. Those in favor of audiologic research in schools pointed out that better research would result, the talents of the teachers could be used, and that the use of teachers in such research would help bridge the gap between researcher and teacher.

A theme throughout several of the discussion groups was related to the problems audiologists create or are confronted with in a school environment. Some of the problems outlined were as follows: (1) The role of the audiologist is frequently undefined either by the audiologist or by the school administrator; role confusion then creates problems for both. (2) Audiologists are unfamiliar with educational problems and objectives or have had little experience with the deaf. (3) Reports are poorly written or do not transmit information of use to the teacher. (4) Relatively inadequate audiologic facilities in schools for the deaf limit audiologic activities. Overall, though, the consensus seemed to be that the competent and well-trained audiologist has much to contribute to the total education of the deaf if his skills and services are properly utilized.

Attitudes and Training of Audiologists and Teachers. There was agreement that problems have existed and still do exist between the two professions. As one recorder summarized it: "The 1945-1960 period of relationship between the two groups is best forgotten and forgiven." Rather than dwell on past conflicts, the participants in all discussion groups tried to pinpoint the causes of the poor relationships and to suggest means by which interprofessional relations could be improved.

Some of the areas producing conflict were described as follows:

(1) Differences in education and certification standards have tended, perhaps, to produce feelings of superiority in one group and inferiority and defensiveness in the other.

(2) Shifting definitions of diagnosis, teaching, evaluation, and training as well as the changing roles of audiologists and teachers have contributed to confusion. "Lack of role definition and role security was identified as a source of a negative attitude."

(3) Communication between teacher and audiologist is frequently less than adequate. Reports from audiologists to teachers often do not get to the teacher and if they do, the reports are not understood. (Interestingly enough, there were no recorded comments, negative or positive, related to the feedback of information from the teacher to the audiologist.)

Audiologic research, as well as the research orientation of audiologists, led to considerable discussion in several groups. "Part of the friction exists because more audiologists have a Ph.D. degree and are inclined to think more in terms of research." Some of the negative attitudes on the part of teachers reflect their feelings that audiologic research has little significance for them, that the audiologist does not relate to the educational program, and that he frequently does not communicate his findings to the teachers. Audiologists responded to these criticisms by pointing out that only a small percentage of audiologists are interested primarily in research, that research is the foundation of progress, and that teachers think that all research must help them in the classroom to be valuable.

What can be done to effect improvement in attitudes? The discussants urged continued dialogue between audiologists and educators with emphasis on joint conferences, joint symposia, short courses, and in-service lectures and demonstrations. Despite the fact that "audiologic research" was identified as a problem area, the consensus in at least two of the groups was that audiologic research in schools for the deaf should be encouraged. It was felt that administrators have a responsibility to upgrade the audiologist's status in schools and to "indoctrinate" the researcher to school problems before research is begun. It was also felt that teachers can participate in research as well as stimulate needed research in the schools.

Resolutions. The 29 resolutions formulated in Tucson were used as the basis for the final discussion. Participants in the meeting were informed that the resolutions were being presented for their information and reaction but not for amendment or alteration since that was clearly not possible. (As one recorder put it, however, "A number of recommendations formally presented at the Arizona Conference were spontaneously formulated in the discussion sections....")

Unfortunately, it is not possible to provide an adequate summary of what transpired at the final session. Generally speaking, the participants tended to agree with those resolutions receiving unanimous or near unanimous support at Tucson and expressed disagreement over those resolutions that were more controversial, as reflected in the split votes of the Tucson group. The

resolutions did stimulate discussion and thought, and this, perhaps, was the most important outcome.

E. Summary

From the comments that were made during and after the meeting, it appears that the meeting was highly successful. One important indication of the success of the meeting is the fact that financial support was received from VRA to conduct eight additional regional meetings throughout the United States. Above all, the White Plains meeting represented an important beginning in the dialogue between the practicing audiologist and the teacher of the deaf, a dialogue that must surely continue if deaf children and adults are to receive all that audiology and education of the deaf can offer them.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The purpose of this two-year project on audiology and education of the deaf was to develop improved understanding and relationships between audiologists and educators of the deaf so as to improve and expand audiologic services to deaf children and adults. The project, sponsored by the American Speech and Hearing Association and the Conference of Executives of American Schools for the Deaf, stemmed from the concern of many interested individuals who felt that despite the important role audiologic services can play in the habilitation or rehabilitation of deaf people, these services were not utilized maximally by deaf individuals, by educators of the deaf, or by audiologists.

A series of surveys was conducted to determine the steps that could be taken to improve services and to establish more positive interprofessional relationships. The surveys were designed for the following specific purposes: (a) to assess the current emphasis on audiology in teacher of the deaf training programs and the emphasis on education of the deaf in audiology training programs; (b) to determine the types of audiologic services provided deaf clients in speech and hearing centers; (c) to determine the kinds of audiologic services available in educational programs for the deaf; and (d) to examine the attitudes of teachers of the deaf and audiologists about their academic training and about interprofessional relationships. Five different questionnaires were used to collect the appropriate data.

With respect to training programs, teacher of the deaf training programs seem to have incorporated more of audiology than audiology training programs have incorporated education of the deaf. This is reflected in staff composition, in curriculum, and in the opinions of directors of both types of training programs. Frequently, there are no relationships between programs training teachers and programs training audiologists. Furthermore, audiology training programs have only infrequent working relationships with schools or classes for deaf children.

Over 200 speech and hearing facilities responded to the questionnaire dealing with services to deaf clients. While only suggestive, the data raised some serious questions about the adequacy

of the services provided deaf people. Most of the facilities surveyed did not employ a teacher of the deaf, the audiologist's role is frequently restricted to audiologic evaluations and hearing aid evaluations, and, generally speaking, only a small proportion of the deaf clients referred to the speech and hearing facilities were referred by deaf education programs. The facilities had infrequent contacts with deaf education programs and in only a few instances were there working relationships between a speech and hearing facility and a teacher of the deaf training program.

One hundred and sixty educational programs for deaf children responded to a questionnaire assessing the status of audiologic services available to them. The majority of the educational programs do not employ an audiologist, and, as a result, audiologic services are obtained from an outside facility. The most frequent audiologic services provided by these facilities are audiologic evaluations and hearing aid evaluations. Positive features of the services received included the thoroughness of the audiologic evaluations, good hearing aid evaluations, the competency of the audiologic personnel providing the services, and good communication and cooperation between the speech and hearing facility and the educational program. Among the negative features cited were delays in receiving appointments and reports, lack of experience with, or knowledge about, deaf children, and the inadequacy of counseling activities related to educational placement or amplification. Of the 160 programs reporting, 45 employed an audiologist on at least a half-time basis. Information was obtained from these educational programs about the services provided by their audiologist, the nature of their audiometric facilities and audiologic equipment, and their needs relative to their overall audiologic program.

Over 500 teachers of the deaf and audiologists were sampled about their attitudes toward their training and about interprofessional relationships. The two samples differed significantly in terms of sex (75 percent of the teachers were female while 75 percent of the audiologists were male) and highest academic degree (over half of the audiologists have a doctorate degree as compared to 2 percent of the teachers). There was good intragroup and intergroup agreement on the importance of various curriculum areas in the training of audiologists and teachers. There was also good agreement on the importance of the various areas, as seen by audiologists and teachers, and the importance placed on these same areas by directors of training programs. The great majority of both groups viewed current interprofessional relationships as good or only fair but saw current relationships as an improvement over relationships that have existed

in previous years. Lack of professional contact between audiologists and teachers was seen as the major problem affecting interprofessional relationships. The two steps that would help improve these relationships, as seen by both groups, were (a) joint participation of audiologists and teachers in state or regional workshops, and (b) increased emphasis on education of the deaf in audiology training programs. Both groups agreed that major contributions could be made by audiologists to the education of the deaf if audiologists made more meaningful recommendations about the use of amplification and residual hearing and if they made more meaningful presentations about the educational implications of audiologic findings. The two contributions that teachers could make to audiology were assisting audiologists in understanding problems related to teaching deaf children and helping audiologists understand language problems caused by deafness.

A major part of the project was the National Conference on Audiology and Education of the Deaf, held in December, 1964. Seventy-seven participants, comprised primarily of superintendents and directors of deaf education programs, directors of audiology and teacher training programs, and directors of speech and hearing centers, addressed themselves to the problem of developing specific recommendations that, if implemented, would lead to improved audiologic services to deaf individuals. Twenty-nine resolutions dealing with training, services, and relationships were formulated and voted upon. Perhaps even more important than the resolutions, was the exchange of opinions and the interaction among participants, out of which seemed to come a deeper appreciation and understanding of the responsibilities and problems confronting each professional group as well as a mutual desire to help resolve these problems.

The last phase of the two-year project was the convening of a regional meeting on audiology and education of the deaf at the New York School for the Deaf at White Plains, New York. The meeting, designed to determine the feasibility of holding similar regional meetings throughout the United States, was attended by over 70 audiologists, teachers of the deaf, administrators, and supervising teachers and audiologists. The participants addressed themselves to the same problems of training, services, and attitudes that were discussed at Tucson. The success of the meeting led to the support, by the Vocational Rehabilitation Administration, of a series of eight additional regional meetings.

Some of the more important conclusions that can be drawn on the basis of the data gathered and on the basis of the discussions held at the National and Regional Conferences are as follows:

1. There is an undeniable need for increased emphasis to be placed on education of the deaf in audiology training programs. There is also a need, perhaps to a somewhat lesser extent, for increased emphasis on audiology in teacher of the deaf training programs.
2. There is a need for clarification of the roles and responsibilities of both audiologists and teachers of the deaf.
3. Interprofessional relationships need to be improved. One major method of accomplishing this is to increase contact and communication between the practicing teacher of the deaf and the clinical audiologist.
4. The audiologist needs greater exposure, probably by means of direct contact, to the educational and language problems imposed by deafness. Teachers need to be better able to utilize audiologic information in planning an educational program.
5. The audiologist can play an important and significant role in an educational program for deaf children. There needs, however, to be greater utilization of audiologic personnel in such programs.
6. If services are to be offered to deaf clients, they must be offered by individuals who are knowledgeable about problems related to deafness and who have had experience with deaf people.
7. Audiologic research has much to contribute to deaf education, but there needs to be more cooperative research efforts, and these efforts need to be designed to solve, in part, some of the problems facing educators of the deaf.
8. Deaf education programs need to take greater advantage of the audiologic services available at speech and hearing centers. This is particularly true if the centers can offer a wide variety of services, especially diagnostic services.
9. The role of the speech pathologist in dealing with the speech and language problems associated with deafness needs to be reevaluated.
10. Greater understanding, appreciation, and respect for the contributions made by each professional group need to be fostered and enhanced.
11. The final conclusion is that maximum audiologic services are not currently being provided to, or utilized by, deaf children and adults. As a result, many deaf individuals fail to achieve their maximum potential.

This project represents a beginning, a first step toward the solution of some of the needs outlined above. The remaining steps must be taken by individuals; by the audiologist who takes the

time to explain his findings to the teacher; by the teacher who welcomes the audiologist to her classroom; by the training program director who adds several courses in education of the deaf (or audiology) to his curriculum and hires the appropriate person to teach them; by the administrator who adds an audiologist to his staff; by the supervisor who contacts a director of a speech and hearing center for information; indeed, by all individuals who are vitally concerned about and interested in deaf people. It is only through a concerted effort that the ultimate goal of the project—improved and expanded audiologic services to deaf children and adults—will be realized.

APPENDIX A

QUESTIONNAIRE USED TO SURVEY AUDIOLOGY TRAINING PROGRAMS

1. Indicate the type of institution for which you are reporting by checking (X) ONE of the following.

   ☐ University, state or municipally supported
   ☐ University, privately supported
   ☐ College, state or municipally supported
   ☐ College, privately supported

2. Do you have an educator (teacher) of the deaf on your audiology training staff?

   ☐ Yes ☐ No

3. If *Yes*, please fill in the following table for all teachers of the deaf on your staff.

Name	Highest Academic Degree	Where Degree Obtained	Year Degree Obtained

4. What types of certification do these teachers of the deaf hold? Check (X) ALL that apply.

Name	Certification ASHA	Conference of Executives of American Schools for the Deaf	State License as Teacher of Deaf	Other (specify)
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	

5. If you do NOT have a teacher of the deaf on your staff, please check (X) the ONE MOST IMPORTANT reason why you do not.

   ☐ Inadequate funds to hire a teacher of the deaf
   ☐ Present staff adequate to meet instructional needs
   ☐ Cannot find qualified personnel
   ☐ Teachers of the deaf are not usually interested in working in an audiology training program
   ☐ Courses related to the education of the deaf are offered in other departments
   ☐ Insufficient time in training program to offer courses related to education of deaf and, thus, have no need for an educator of the deaf
   ☐ Other (specify) _____

6. Are you planning to add a teacher of the deaf to your staff within the next year or two?

☐ Yes ☐ No

7-A. What is your opinion concerning the emphasis currently placed on education of the deaf curricula in audiology training programs throughout the United States? Check (X) ONE of the following.

☐ Too little emphasis

☐ Too much emphasis

☐ Emphasis is about right

☐ No opinion

7-B. What is your opinion concerning the emphasis currently placed on audiology curricula in teacher of the deaf training programs throughout the United States? Check (X) ONE of the following.

☐ Too little emphasis

☐ Too much emphasis

☐ Emphasis is about right

☐ No opinion

Please explain your answers:

8. For EACH item on the following list, please indicate:

A. How essential it is for an audiologist to be trained in the areas described,

AND

B. Whether this training is available to students in your program.

Each item must be checked (X) TWICE – once in the left-hand columns to indicate how essential the item is and once in the right-hand columns to indicate the item's availability. If an item is "Required," check only the "Required"column. If an item is "Available" *(but not "Required")* either in your program or elsewhere in your institution, check only the "Available" column. If an item is "Not Available" anywhere in your institution, check the column on the far right.

ESSENTIAL	DESIRABLE	NOT ESSENTIAL	ITEM	REQUIRED	AVAILABLE	NOT AVAILABLE
☐	☐	☐	a) *Speechreading* (uses and limitations of existing tests, methodologies for teaching speechreading, etc.)	☐	☐	☐
☐	☐	☐	b) *Residual hearing* (uses and limitations of existing tests, use of special materials, etc.)	☐	☐	☐
☐	☐	☐	c) *Anatomy and physiology of the vocal mechanism* (neuromuscular aspects, theories of voice production, etc.)	☐	☐	☐
☐	☐	☐	d) *Nature and assessment of speech and voice disorders* (etiologies, symptomatology, diagnostic tools and techniques, etc.)	☐	☐	☐
☐	☐	☐	e) *Systems of orthography used in teaching speech to the deaf* (International Phonetic Alphabet, Northampton Charts, etc.)	☐	☐	☐
☐	☐	☐	f) *Linguistics* (systems, philosophies, applications, etc.)	☐	☐	☐
☐	☐	☐	g) *Speech and language development* (assessment of language problems, development of speech in deaf, etc.)	☐	☐	☐
☐	☐	☐	h) *Teaching language to deaf* (traditional and new approaches, systems such as Five Slate, Vinson, etc.)	☐	☐	☐
☐	☐	☐	i) *Manual communication* (systems such as manual alphabet, the language of signs, etc.)	☐	☐	☐
☐	☐	☐	j) *Teaching reading to deaf* (techniques for developing skills, silent vs oral reading, etc.)	☐	☐	☐
☐	☐	☐	k) *Subject matter instruction for the deaf* (selection of teaching material, development of abstract concepts, etc.)	☐	☐	☐
☐	☐	☐	l) *Psychology of deafness* (effects of deafness on personality, psychological tests for deaf, etc.)	☐	☐	☐
☐	☐	☐	m) *Social and vocational adjustment of deaf* (social limitations imposed by deafness, desirable occupations for deaf, etc.)	☐	☐	☐

8. *(Continued)*

ESSENTIAL	DESIRABLE	NOT ESSENTIAL	ITEM	REQUIRED	AVAILABLE	NOT AVAILABLE
☐	☐	☐	m) *Residual hearing* (uses and limitations of existing tests, use of special materials, etc.)	☐	☐	☐
☐	☐	☐	n) *Anatomy and physiology of the vocal mechanism* (neuromuscular aspects, theories of voice production, etc.)	☐	☐	☐
☐	☐	☐	o) *Nature and assessment of speech and voice disorders* (etiologies, symptomatology, diagnostic tools and techniques, etc.)	☐	☐	☐
☐	☐	☐	p) *Linguistics* (systems, philosophies, applications, etc.)	☐	☐	☐
☐	☐	☐	q) *Speech and language development* (assessment of language problems, development of speech in deaf, etc.)	☐	☐	☐
☐	☐	☐	r) *Planned observations at speech and hearing clinics*	☐	☐	☐
☐	☐	☐	s) *Supervised practice in audiological evaluations of children and adults*	☐	☐	☐
☐	☐	☐	t) *Supervised practice in auditory training of the aurally handicapped*	☐	☐	☐
☐	☐	☐	u) *Supervised practice in teaching speechreading to hard of hearing children and adults*	☐	☐	☐
☐	☐	☐	v) *Supervised practice in hearing aid evaluation procedures*	☐	☐	☐
☐	☐	☐	w) *Supervised practice in screening audiometry*	☐	☐	☐

9. Do you have some type of working relationship with a program that TRAINS audiologists?

☐ Yes ☐ No

10. If *Yes*, is this program located within your own institution?

☐ Yes ☐ No

11. If *Yes* to question No. 9, what is the nature of the relationship? Check (X) ALL that apply.

☐ Members of your staff participate in the training of audiologists

☐ Staff members of the audiology training program participate in the training of teachers of the deaf

☐ Joint conferences between your staff and the audiology training staff

☐ Your students are required to take audiology courses

☐ Students in audiology training program are required to take courses offered in your program

(Continued)

11. *(Continued)*

☐ Other (specify) _____

_____

12. Describe briefly any steps you would recommend for improving relationships between teacher of the deaf training programs and audiology training programs.

A.

B.

C.

13. Please add any comments you would like to make concerning any of the material covered in this questionnaire. *(Please use the reverse side if additional space is needed.)*

Name of person answering questionnaire if different from name shown on page 1. _____

Your title _____

and position _____

(This survey is completely confidential. Your name will not be associated with the findings in any way.)

APPENDIX B

QUESTIONNAIRE USED TO SURVEY TEACHER OF THE DEAF TRAINING PROGRAMS

1. Indicate the type of institution for which you are reporting by checking (X) ONE of the following.

   ☐ University, state or municipally supported
   ☐ University, privately supported
   ☐ College, state or municipally supported
   ☐ College, privately supported

2. Do you have an audiologist on your teacher of the deaf training staff?

   ☐ Yes ☐ No

3. If *Yes*, please fill in the following table for all audiologists on your staff.

Name	Highest Academic Degree	Where Degree Obtained	Year Degree Obtained

4. What types of certification do these audiologists hold? Check (X) ALL that apply.

Name	Certification ASHA	Conference of Executives of American Schools for the Deaf	State License as Teacher of Deaf	Other (specify)
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	

5. If you do NOT have an audiologist on your staff, please check (X) the ONE MOST IMPORTANT reason why you do not.

   ☐ Inadequate funds to hire an audiologist
   ☐ Present staff adequate to meet instructional needs
   ☐ Audiologists are not usually interested in working in a teacher of the deaf training program
   ☐ Courses related to audiology are offered in other departments
   ☐ Insufficient time in training program to offer courses related to audiology and, thus, have no need for an audiologist
   ☐ Other (specify) _____

6. Are you planning to add an audiologist to your staff within the next year or two?

☐ Yes ☐ No

7-A. What is your opinion concerning the emphasis currently placed on education of the deaf curricula in audiology training programs throughout the United States? Check (X) ONE of the following.

☐ Too little emphasis
☐ Too much emphasis
☐ Emphasis is about right
☐ No opinion

7-B. What is your opinion concerning the emphasis currently placed on audiology curricula in teacher of the deaf training programs throughout the United States? Check (X) ONE of the following.

☐ Too little emphasis
☐ Too much emphasis
☐ Emphasis is about right
☐ No opinion

Please explain your answers:

8. For EACH item on the following list, please indicate:

A. How essential it is for a teacher of the deaf to be trained in the areas described,

AND

B. Whether this training is available to students in your program.

Each item must be checked (X) TWICE – once in the left-hand columns to indicate how essential the item is and once in the right-hand columns to indicate the item's availability. If an item is "Required," check only the "Required" column. If an item is "Available" (*but not "Required"*) either in your program or elsewhere in your institution, check only the "Available" column. If an item is "Not Available" anywhere in your institution, check the column on the far right.

ESSENTIAL	DESIRABLE	NOT ESSENTIAL	ITEM	REQUIRED	AVAILABLE	NOT AVAILABLE
☐	☐	☐	a) *Physics of sound* (means of generating puretones and speech, frequency and intensity attributes of sound, etc.)	☐	☐	☐
☐	☐	☐	b) *Elementary electronics* (principles of amplification, understanding of transducers, etc.)	☐	☐	☐
☐	☐	☐	c) *Anatomy and physiology of hearing* (peripheral and central pathways, structure of the ear, etc.)	☐	☐	☐
☐	☐	☐	d) *Causes and treatment of hearing impairment* (etiologies of hearing impairment, medical and surgical treatment, etc.)	☐	☐	☐
☐	☐	☐	e) *Psychophysical methods* (concept of threshold, psychophysical procedures, etc.	☐	☐	☐
☐	☐	☐	f) *Audiometers* (pure tone and speech audiometers, special instruments such as Bekesy audiometer, etc.)	☐	☐	☐
☐	☐	☐	g) *Standard audiometric techniques* (pure tone and speech audiometry, use of masking, etc.)	☐	☐	☐
☐	☐	☐	h) *Special audiometric techniques* (tests for children, GSR audiometry, etc.	☐	☐	☐
☐	☐	☐	i) *Screening audiometry* (group audiometry, limited frequency audiometry, etc.)	☐	☐	☐
☐	☐	☐	j) *Interpretation of audiometric results* (implications for treatment, implications for amplification, etc.)	☐	☐	☐
☐	☐	☐	k) *Hearing aid procedures* (principles of hearing aid selection, special test materials, etc.)	☐	☐	☐
☐	☐	☐	l) *Speechreading* (uses and limitations of existing tests, methodologies for teaching speechreading, etc.)	☐	☐	☐

8. *(Continued)*

ESSENTIAL	DESIRABLE	NOT ESSENTIAL	ITEM	REQUIRED	AVAILABLE	NOT AVAILABLE
☐	☐	☐	n) *History and philosophy of education of the deaf* (historical evolution of modern approaches, current issues, etc.)	☐	☐	☐
☐	☐	☐	o) *Supervised teaching of a class of deaf students*	☐	☐	☐
☐	☐	☐	p) *Supervised teaching of deaf children in language development, speechreading, or speech development*	☐	☐	☐
☐	☐	☐	q) *Planned observations in day schools, residential schools, or classes for deaf children*	☐	☐	☐
☐	☐	☐	r) *Supervised practice in auditory training of the aurally handicapped*	☐	☐	☐
☐	☐	☐	s) *Supervised practice in teaching speechreading to hard of hearing children and adults*	☐	☐	☐

9. Do you have some type of working relationship with a program that TRAINS teachers of the deaf?

☐ Yes ☐ No

10. If *Yes*, is this program located within your own institution?

☐ Yes ☐ No

11. If *Yes* to question 9, what is the nature of the relationship? Check (X) ALL that apply.

- ☐ Members of your staff participate in the training of teachers of the deaf
- ☐ Staff members of the teacher of the deaf training program participate in the training of audiologists
- ☐ Joint conferences between your staff and the teacher of the deaf training staff
- ☐ Planned observations at your speech and/or hearing clinic for students in the teacher of the deaf training program
- ☐ Your students are required to take education of the deaf courses
- ☐ Students in teacher of the deaf training program are required to take courses offered in your program
- ☐ Other (specify) _____

_____

12. Do you have some type of working relationship with an EDUCATIONAL PROGRAM for the deaf?

☐ Yes ☐ No

13. If *Yes*, what is the nature of the relationship? Check (X) ALL that apply.

- ☐ Planned observations by your staff at school or class for the deaf
- ☐ Planned observations by your students at school or class for the deaf
- ☐ Planned observations at your school by staff members of school or class for the deaf
- ☐ Members of your staff serve as consultants or have staff appointments at school for the deaf
- ☐ Teachers of the deaf from educational program for the deaf have staff appointments at your school
- ☐ Joint conferences between your staff and the staff of the school for the deaf
- ☐ Other (specify) _____

_____

14. Describe briefly any steps you would recommend for improving relationships between audiology training programs and teacher of the deaf training programs.

A.

B.

C.

15. Please add any comments you would like to make concerning any of the material covered in this questionnaire.

Name of person answering questionnaire if different from name shown on page 1. _____

Your title _____

and position _____

(This survey is completely confidential. Your name will not be associated with the findings in any way.)

APPENDIX C

SERVICES OFFERED TO THE DEAF BY SPEECH AND HEARING CENTERS

1. Name and address of facility for which you are reporting.

   Name_____

   Address_____ (Street) _____ (City) _____ (State)

2. Indicate the primary type of facility for which you are reporting by checking ONE of the following

   - ☐ College or university speech and/or hearing clinic
   - ☐ Community speech and/or hearing clinic
   - ☐ Veterans Administration speech and hearing clinic
   - ☐ Private speech and/or hearing clinic
   - ☐ Other (specify)_____

3. Do you offer services to the deaf? FOR THE PURPOSES OF THIS QUESTIONNAIRE, A DEAF INDIVIDUAL IS DEFINED AS A PERSON FOR WHOM VISION IS THE PRIMARY AVENUE OF COMMUNICATION.

   ☐ Yes ☐ No

   If No, please explain briefly, in the space below, why you do not and return the questionnaire (see last page for mailing instructions). If Yes to question #3, please complete the remainder of the questionnaire.

4. Please indicate the number of audiologists, speech pathologists, and teachers of the deaf employed at your clinic.

   A. AUDIOLOGISTS (include all personnel whose primary responsibility is to provide audiology services of a professional nature to clients).

   _____ Number of people employed full time
   _____ Number of people employed less than full time

   B. SPEECH PATHOLOGISTS (include all personnel whose primary responsibility is to provide speech, voice, or language services of a professional nature to clients).

   _____ Number of people employed full time
   _____ Number of people employed less than full time

   C. TEACHERS OF THE DEAF (include all personnel who have been professionally trained as a teacher of the deaf and whose primary professional identification is as a teacher of the deaf).

   _____ Number of people employed full time
   _____ Number of people employed less than full time

5. Fill in the following table for all TEACHERS OF THE DEAF (as defined on page 2) employed at your clinic.

Name	Highest Academic Degree	Where Degree Obtained	Year Degree Obtained

6. What types of certification do these teachers of the deaf hold? Check ALL that apply.

	Certification			
Name	ASHA	Conference of Executives of American Schools for the Deaf	State License as Teacher of Deaf	Other (specify)
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	

7. How many of your audiologists and speech pathologists are certified by the Conference of Executives of American Schools for the Deaf or hold a state license as a teacher of the deaf?

Number_____

8. IF you do not have a professionally trained teacher of the deaf on your staff, please indicate WHY you do not. Check the ONE most important reason.

- ☐ Deaf clients are referred to other facilities
- ☐ Inadequate funds to hire a teacher of the deaf
- ☐ Insufficient caseload of deaf clients to justify hiring a teacher of the deaf
- ☐ Staff audiologists and/or speech pathologists perform the functions of a teacher of the deaf
- ☐ Cannot find competent personnel
- ☐ Other (specify)_____

9. IF you do not have a professionally trained teacher of the deaf, are you planning to employ one or more within the next year or two?

☐ Yes ☐ No

10. Please give the total number of HEARING HANDICAPPED clients (including deaf clients) served by your clinic during 1963 AND indicate the approximate number in each of the three age groups.

		Number in Each Age Group		
	Total	0-5	6-16	Over 16
Number of Hearing Handicapped Clients, 1963	_____	____	____	____

11. How does the total indicated above compare with the number of hearing handicapped clients served in each of the last two years? Please check ONE of the following.

- ☐ Total about the same
- ☐ Total larger
- ☐ Total smaller
- ☐ Cannot answer because_____

_____

12. Please give the total number of DEAF clients served by your clinic during 1963 and indicate the approximate number in each of the three age groups. *Remember, for the purposes of this questionnaire, a deaf individual has been defined as a person for whom vision is the primary avenue of communication.*

		Number in Each Age Group		
	Total	0-5	6-16	Over 16
Number of Deaf Clients, 1963	_____	____	____	____

13. How does the total indicated above compare with the number of deaf clients served in each of the last two years? Please check ONE of the following.

- ☐ Total about the same
- ☐ Total larger
- ☐ Total smaller
- ☐ Cannot answer because_____

_____

14. Of all the DEAF clients referred to your clinic, what percent (approximately) was referred by educational programs for the deaf or by school systems that have special classes for the deaf?

Percent Referred_____

15. Indicate the approximate percentage of DEAF clients, in EACH age category, who received EACH of the following services at your clinic in *1963*.

Service	Age in Years 0-5	6-16	Over 16
A. Audiological evaluations	_____	_____	_____
B. Auditory training	_____	_____	_____
C. Speechreading instruction	_____	_____	_____
D. Speech therapy	_____	_____	_____
E. Manual communication training	_____	_____	_____
F. Hearing aid evaluations	_____	_____	_____
G. Client or parent counseling	_____	_____	_____
H. Social activities	_____	_____	_____
I. Psychological evaluations	_____	_____	_____
J. Vocational guidance	_____	_____	_____
K. Educational guidance	_____	_____	_____
L. Pre-school classes	_____	_____	_____

16. Indicate the type of staff person (*e.g.*, audiologist, speech pathologist, etc.) who USUALLY is responsible for EACH of the following services. Check ALL that apply.

Service	Staff Person: Audiologist	Speech Pathologist	Teacher of the Deaf	Other (specify)
A. Audiological evaluations	☐	☐	☐	_____
B. Auditory training	☐	☐	☐	_____
C. Speechreading instruction	☐	☐	☐	_____
D. Speech therapy	☐	☐	☐	_____
E. Manual communication training	☐	☐	☐	_____
F. Hearing aid evaluations	☐	☐	☐	_____
G. Client or parent counseling	☐	☐	☐	_____
H. Social activities	☐	☐	☐	_____
I. Psychological evaluations	☐	☐	☐	_____
J. Vocational guidance	☐	☐	☐	_____
K. Educational guidance	☐	☐	☐	_____
L. Pre-school classes	☐	☐	☐	_____

17. Of the services listed in questions 15 and 16, which TWO are MOST FREQUENTLY requested by educational programs for the deaf? Please write in the letter preceding the item.

Most frequently requested service _____

Next most frequently requested service _____

18. Do you have some type of working relationship with an educational program for the deaf?

☐ Yes ☐ No

19. If YES, what is the nature of the relationship? Check ALL that apply.

☐ Planned observations by your staff at school or class for the deaf

☐ Planned observations at your clinic by staff members of school or class for the deaf

☐ Members of your staff serve as consultants or have staff appointments at school for the deaf

☐ Teachers of the deaf from educational program for the deaf have staff appointments at your clinic

☐ Joint participation in case conferences

☐ Other (specify)_____

_____

20. Do you have some type of working relationship with a college or university that TRAINS teachers of the deaf?

☐ Yes ☐ No

21. If YES, what is the nature of the relationship? Check ALL that apply.

☐ Planned observations at your clinic by prospective teachers of the deaf

☐ Members of your clinic serve as consultants or have staff appointments at the training institution

☐ Faculty of the training institution have staff appointments at your clinic

☐ Joint conferences between your staff and the training institution staff

☐ Other (specify)_____

_____

22. Describe briefly any steps you would recommend for improving relationships between speech and hearing clinics and educational programs for the deaf.

A.

B.

C.

Please add any comments you would like to make related to the topic "Services Offered to the Deaf by Speech and Hearing Centers."

Your name _____

Your title _____

and position _____

We asked for your name and address so that we can record the fact that you have returned the questionnaire and can exclude you from follow-up mailings. The survey is completely confidential. Your name will not be associated with the findings in any way. (Please see last page for mailing instructions.)

APPENDIX D

AUDIOLOGICAL SERVICES IN EDUCATIONAL PROGRAMS FOR THE DEAF

1. Name and address of facility for which you are reporting.

   Name_____

   Address_____ (Street) _____ (City) _____ (State)

2. Indicate the *primary* type of facility for which you are reporting by checking ONE of the following.

   - ☐ Public residential school for the deaf
   - ☐ Private residential school for the deaf
   - ☐ Public day school for the deaf
   - ☐ Private day school for the deaf
   - ☐ Public day class for the deaf
   - ☐ Private day class for the deaf
   - ☐ Other (specify)_____

3a. What is the total number of students enrolled in your education of the deaf program? Include *only* those students who spend a *major* portion of each weekday in your program.

_____ Total number

3b. Of the total number, how many are deaf? FOR THE PURPOSES OF THIS QUESTIONNAIRE, A DEAF INDIVIDUAL IS DEFINED AS A PERSON FOR WHOM VISION IS THE PRIMARY AVENUE OF COMMUNICATION.

_____ Total number of deaf students

3c. Of the total number shown in 3a, how many are hearing handicapped students (that is, not deaf)?

_____ Total number of hearing handicapped students

4. What is the total number of your full-time educational staff? (Include teachers of the deaf, supervising teachers, superintendent, principal, psychologist, and social worker. Do not include houseparents or teachers in training.)

_____ Total number of full-time staff

5. Does the facility for which you are reporting employ one or more audiologists on at least a half-time basis?

   ☐ Yes ☐ No

IF YOU ANSWERED *NO* TO QUESTION 5, PLEASE COMPLETE FORM A *ONLY* (see page 3).

IF YOU ANSWERED *YES* TO QUESTION 5, PLEASE COMPLETE FORM B *ONLY* (see page 8).

6. Where do you obtain audiological services? Check ALL that apply.

- ☐ College or university speech and hearing clinic
- ☐ Community speech and/or hearing clinic
- ☐ Private speech and hearing clinic
- ☐ Audiologist in private practice
- ☐ Ear, Nose, and Throat physician in private practice
- ☐ Other (specify)_____

_____

7. Which of the following services are provided by the facility or facilities checked above AND which services are provided by your own program?

SERVICE	OWN PROGRAM	FACILITY CHECKED ABOVE	OWN PROGRAM *AND* FACILITY	SERVICE NOT PROVIDED
	CHECK ONE IN EACH ROW			
A. Audiological evaluations	☐	☐	☐	☐
B. Otological diagnosis and/or treatment	☐	☐	☐	☐
C. Auditory training	☐	☐	☐	☐
D. Speechreading instruction	☐	☐	☐	☐
E. Speech therapy	☐	☐	☐	☐
F. Manual communication training	☐	☐	☐	☐
G. Hearing aid evaluations	☐	☐	☐	☐
H. Client or parent counseling	☐	☐	☐	☐
I. Social activities	☐	☐	☐	☐
J. Psychological evaluations	☐	☐	☐	☐
K. Vocational guidance	☐	☐	☐	☐
L. Educational guidance	☐	☐	☐	☐
M. Pre-school classes	☐	☐	☐	☐
N. Other (specify)_____ _____	☐	☐	☐	☐

8. Which ONE of the audiological services *obtained* from the facility or facilities checked above (see question 6) do you consider most essential to your total education of the deaf program? Please write the letter preceding the service in the space below.

_____ Most essential service

9. Describe briefly the major *strengths and weaknesses* of the audiological services you receive.

Strengths: A.

B.

C.

Weaknesses: A.

B.

C.

10. Do you require an audiological evaluation before you admit a student to your program?

☐ Yes ☐ No

If *Yes*, what does this evaluation usually include? Check ALL that apply.

☐ Tuning fork test

☐ Pure tone air conduction test

☐ Pure tone bone conduction test

☐ Speech audiometry

☐ Special tests such as GSR audiometry, SISI test, etc.

☐ Other (specify)_____

_____

_____

11. Do you require an otological examination by an Ear, Nose, and Throat specialist before you admit a student to your program?

☐ Yes ☐ No

12. Please check the ONE most important reason for NOT having an audiologist on your staff.

☐ Program too small to justify hiring an audiologist

☐ No funds available

☐ Would duplicate services currently available in the community

☐ Present staff adequate to meet needs

☐ Difficult to obtain a qualified audiologist

☐ Not possible because of the administrative framework in which we operate

☐ Other (specify)_____

_____

_____

13. Do you have any immediate plans for hiring an audiologist?

☐ Yes ☐ No

14. What is the ONE most important contribution that an audiology program can make to an education of the deaf program?

15. In what important way (if any) has audiology *not* met its responsibility to the education of the deaf?

Please add any comments you would like to make related to any material covered in this questionnaire.

Your name_____

Your title_____

and position_____

We asked for your name and address so that we can record the fact that you have returned the questionnaire and can exclude you from follow-up mailings. The survey is completely confidential. Your name will not be associated with the findings in any way. (Please see last page for mailing instructions.)

■ ■ ■ ■ FORM B ■ ■ ■ ■

6. Please give the following information for all staff members whose primary duties are audiological in nature and whose primary professional identification is as an audiologist.

Name	Highest Academic Degree	Year Degree Obtained	ASHA Certification in Hearing *(Yes or No)*

7. Indicate the type of staff person (*e.g.*, audiologist, teacher of the deaf, etc.) who *usually* is responsible for *each* of the following services. If a service is *not* offered by your *audiology* program, check the "Not Offered" column. Check ONE answer for each service.

SERVICE	NOT OFFERED	AUDIOLOGIST	TEACHER OF THE DEAF	OTHER (specify)
A. Audiological evaluations	☐	☐	☐	
B. Auditory training	☐	☐	☐	
C. Speechreading instruction	☐	☐	☐	
D. Speech therapy	☐	☐	☐	
E. Training in manual communication	☐	☐	☐	
F. Hearing aid evaluations	☐	☐	☐	
G. Student or parent counseling	☐	☐	☐	
H. Psychological evaluations	☐	☐	☐	
I. In-service training in audiology for teaching staff	☐	☐	☐	
J. Other (specify) _____	☐	☐	☐	
_____				

8. Which ONE service offered by your audiology program do you consider *most* essential to your total educational program? Please write the letter preceding the service in the space below.

Most essential service_____

9. What is the annual salary and contract period *(e.g.*, 9 months, 12 months) of each audiologist on your staff? (The number of salaries listed should correspond to the number of staff members shown in question 6 although the order of listing need not be the same.)

Annual Salary	Contract Length

10. How many audiometric test rooms do you have? Do *not* include control rooms or rooms which are not used primarily for hearing testing.

Number of test rooms_____

11. Of these audiometric test rooms, how many are sound treated or sound proofed?

Number sound treated or sound proofed_____

12. Generally speaking, how would you evaluate the adequacy of your audiometric test room(s)? Check ONE of the following.

- ☐ Very adequate
- ☐ Adequate
- ☐ Less than adequate
- ☐ Inadequate

13. List below the type, name of manufacturer, model number, and year of purchase for all pure tone and speech audiometers in *regular* use. Do *not* list special equipment such as GSR audiometers, Bekesy audiometers, etc.

Type of Audiometer	Manufacturer	Model Number	Approximate Year of Purchase

14. What *special* audiometric equipment do you have? Check ALL that apply.

- ☐ None
- ☐ GSR audiometer
- ☐ Bekesy audiometer
- ☐ Separate SISI or SAL units
- ☐ Delayed auditory feedback equipment
- ☐ Other (specify)_____

15a. About how often is the calibration of your audiometers checked? Check ONE of the following.

- ☐ Every day
- ☐ Every week
- ☐ Every month
- ☐ Every three months
- ☐ Every six months
- ☐ Once a year
- ☐ Never
- ☐ Other (specify)_____

15b. Describe briefly how you *check* the calibration of your audiometers.

16. How do you maintain and/or repair your audiometric equipment? Please check the ONE procedure used *most frequently*.

- ☐ Send equipment to manufacturer
- ☐ Use electronic technician or local electronics shop
- ☐ Use members of own staff
- ☐ Use the facilities of a local hearing aid dealer
- ☐ Use the facilities of a college or university
- ☐ Other (specify)_____

_____

17. If money were available to you for audiometric equipment and related items, what priority would you give to each of the following items? *Please rank every item* using 1 to indicate the *highest* priority, 2 the *next* highest, and so forth.

- _____ Purchase of more modern audiometers
- _____ Purchase of special diagnostic equipment
- _____ Purchase of special calibration equipment
- _____ Improve the test environment
- _____ Improve repair and maintenance procedures
- _____ Other (specify)_____

_____

18a. Is research currently being conducted by your audiology staff?

☐ Yes ☐ No

18b. If *Yes*, describe briefly the type of research being conducted.

19a. Do you require an audiological evaluation before you admit a student to your program?

☐ Yes ☐ No

19b. If *Yes*, what does this evaluation usually include? Check ALL that apply.

☐ Tuning fork tests

☐ Pure tone air conduction test

☐ Pure tone bone conduction test

☐ Speech audiometry

☐ Special tests such as GSR audiometry, SISI test, etc.

☐ Other (specify)_____

20. Do you require an otological evaluation by an Ear, Nose, and Throat specialist before you admit a student to your program?

☐ Yes ☐ No

21. If the necessary funds were available to you, what priority would you give to the following items? *Please rank the top three items* using 1 to indicate the *highest* priority, 2 for the *next* highest, and 3 for the *third* highest priority.

_____ Hire more teachers of the deaf

_____ Raise staff salaries

_____ Expand audiology program

_____ Hire more supervisory personnel

_____ Expand facilities

_____ Improve physical plant

_____ Increase administrative staff

_____ Hire specialists such as psychologists, social workers, etc.

_____ Other (specify)_____

_____

22. If necessary funds were available to improve your *audiology* program, what priority would you give to each of the following items? *Please rank the top three items* using 1 to indicate the *highest* priority, 2 for the *next* highest, and 3 for the *third* highest priority.

_____ Hire more audiologists

_____ Purchase new pure tone and/or speech audiometric equipment

_____ Purchase special diagnostic equipment such as a Bekesy audiometer, SISI unit, etc.

_____ Build or purchase additional test facilities

_____ Expand audiological services

_____ Develop or expand an audiological research program

_____ Raise salaries of current audiology staff

_____ Purchase additional consultative services

_____ Other (specify) _____

_____

23. Do you have any immediate plans for expanding or improving your present audiology program?

☐ Yes ☐ No

24. Does your audiology staff have some type of working relationship with a *speech and hearing center?*

☐ Yes ☐ No

25. If *Yes*, what is the nature of the relationship? Check ALL that apply.

☐ Members of your staff serve as consultants to the speech and hearing center

☐ Speech and hearing center staff serve as consultants to your program

☐ Your audiology staff refers students to speech and hearing center for special audiological evaluation

☐ Joint conferences between your audiology staff and speech and hearing center staff

☐ Joint participation in research projects

☐ Other (specify) _____

_____

26. Does your audiology staff have some type of working relationship with a *college or university that trains audiologists?*

☐ Yes ☐ No

27. If *Yes,* what is the nature of the relationship? Check ALL that apply.

☐ Members of your audiology staff participate in the audiology training program

☐ Members of the audiology training staff serve as consultants to your audiology program

☐ Planned observations at your audiology clinic for students in audiology training program

☐ Joint conferences between your audiology staff and the staff of the audiology training program

☐ Members of your staff are working for advanced degrees in audiology or taking additional courses in audiology at the college or university

☐ Other (specify) _____

_____

28. What is the ONE most important contribution that an audiology program can make to an education of the deaf program?

29. In what important way (if any) has audiology *not* met its responsibility to the education of the deaf?

Please add any comments you would like to make related to any material covered in this questionnaire.

Your name_____

Your title_____

and position_____

We asked for your name and address so that we can record the fact that you have returned the questionnaire and can exclude you from follow-up mailings. The survey is completely confidential. Your name will not be associated with the findings in any way. (Please see last page for mailing instructions.)

APPENDIX E
AUDIOLOGISTS AND TEACHERS OF THE DEAF

1. Name and address of facility at which you work. If more than one facility, list the facility at which you spend the *major* portion of your time.

Name_____

Address_____ _____ _____
Street City State

2a. AUDIOLOGISTS: Indicate the primary *type* of facility in which you work. Check ONE of the following.

- ☐ College or university
- ☐ Community speech and hearing clinic
- ☐ Veterans Administration speech and hearing clinic
- ☐ Private speech and/or hearing clinic
- ☐ Residential school for the deaf
- ☐ Private practice
- ☐ Other (specify)_____

2b. TEACHERS OF THE DEAF: Indicate the primary *type* of facility in which you work. Check ONE of the following.

- ☐ Residential school for the deaf
- ☐ Day school for the deaf
- ☐ Day class for the deaf
- ☐ College or university
- ☐ Community speech and hearing clinic
- ☐ Private speech and/or hearing clinic
- ☐ Other (specify)_____

3. What is the *highest* academic degree you hold at this date? Check ONE of the following.

- ☐ None
- ☐ B.A., B.S., B.Ed.
- ☐ M.A., M.S., M.Ed.
- ☐ Ph.D., Sc.D., Ed.D.
- ☐ Other (specify)_____

4. Sex: ☐ Male ☐ Female

5. Year of birth _____

6. What types of certification do you hold at the present time? Check ALL that apply.

- ☐ American Speech and Hearing Association certification
- ☐ Certification by the Conference of Executives of American Schools for the Deaf
- ☐ State certification as a teacher of the deaf
- ☐ Other (specify)_____

  _____
- ☐ None

7. If you hold American Speech and Hearing Association certification, indicate the TYPE of certificate you hold (*e.g.*, Basic Hearing, Advanced Speech and Advanced Hearing, etc.).

Type of ASHA certificate_____

8. How many years of paid professional experience have you had as an audiologist OR as a teacher of the deaf?

Years of paid professional experience as an audiologist_____

Years of paid professional experience as a teacher of the deaf_____

9a. AUDIOLOGISTS: Have you had any post-degree training that was directly related to the *education of the deaf?*

☐ Yes ☐ No

9b. TEACHERS OF THE DEAF: Have you had any post-degree training that was directly related to *audiology?*

☐ Yes ☐ No

10. If YES, what type of training have you had? Check ALL that apply.

- ☐ College or university course(s)
- ☐ Summer workshop
- ☐ In-service training during school year
- ☐ Short courses
- ☐ Other (specify)_____

  _____

11. On the following pages is a list of areas usually covered either in the training of audiologists, or in the training of teachers of the deaf, or in the training of both. For *each* item on the list, please indicate:

A. How essential it is for audiologists to be trained in each of the areas described. Check ONE of the three columns on the far left;

B. How essential it is for a teacher of the deaf to be trained in each of the areas described. Check ONE of the three columns headed "Teacher of the Deaf"; *and*

C. How much emphasis was placed on each of the areas at the institution at which you received the major part of your specialized training as an audiologist OR as a teacher of the deaf. Check ONE of the four columns on the far right.

PLEASE GIVE THREE CHECKS TO EACH ITEM: one check for the "Audiologist," one check for the "Teacher of the Deaf" and one check to indicate "Emphasis."

AUDIOLOGIST			TEACHER OF THE DEAF			AREA	EMPHASIS			
ESSENTIAL	DESIRABLE	NOT ESSENTIAL	ESSENTIAL	DESIRABLE	NOT ESSENTIAL		TOO MUCH	ABOUT RIGHT	TOO LITTLE	NONE AT ALL
☐	☐	☐	☐	☐	☐	1) *Physics of sound* (means of generating pure tones and speech, frequency and intensity attributes of sound, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	2) *Elementary electronics* (principles of amplification, understanding of transducers, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	3) *Anatomy and physiology of hearing* (peripheral and central pathways, structure of the ear, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	4) *Causes and treatment of hearing impairment* (etiologies of hearing impairment, medical and surgical treatment, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	5) *Psychophysical methods* (concept of threshold, psychophysical procedures, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	6) *Audiometers* (pure tone and speech audiometers, special instruments such as Bekesy audiometer, etc.)	☐	☐	☐	☐

(*Cont'd on page 5*)

11. (*Continued from page 4*)

AUDIOLOGIST			TEACHER OF THE DEAF			AREA	EMPHASIS			
ESSENTIAL	DESIRABLE	NOT ESSENTIAL	ESSENTIAL	DESIRABLE	NOT ESSENTIAL		TOO MUCH	ABOUT RIGHT	TOO LITTLE	NONE AT ALL
☐	☐	☐	☐	☐	☐	7) *Standard audiometric techniques* (pure tone and speech audiometry, use of masking, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	8) *Special audiometric techniques* (tests for children, GSR audiometry, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	9) *Screening audiometry* (group audiometry, limited frequency audiometry, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	10) *Interpretation of audiometric results* (implications for treatment, implications for amplification, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	11) *Hearing aid procedures* (principles of hearing aid selection, special test materials, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	12) *Speechreading* (uses and limitations of existing tests, methodologies for teaching visual communication, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	13) *Residual hearing* (uses and limitations of existing tests, use of special materials, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	14) *Anatomy and physiology of the vocal mechanism* (neuromuscular aspects, theories of voice production, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	15) *Nature and assessment of speech and voice disorders* (etiologies, symptomatology, diagnostic tools and techniques, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	16) *Systems of orthography used in teaching speech to the deaf* (International Phonetic Alphabet, Northampton Charts, etc.)	☐	☐	☐	☐

(*Cont'd on page 6*)

11. (*Continued from page 5*)

AUDIOLOGIST			TEACHER OF THE DEAF			AREA	EMPHASIS			
ESSENTIAL	DESIRABLE	NOT ESSENTIAL	ESSENTIAL	DESIRABLE	NOT ESSENTIAL		TOO MUCH	ABOUT RIGHT	TOO LITTLE	NONE AT ALL
☐	☐	☐	☐	☐	☐	17) *Linguistics* (systems, philosophies, applications, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	18) *Speech and language development* (assessment of language problems, development of speech in deaf, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	19) *Teaching language to deaf* (traditional and new approaches, systems such as Five Slate, Vinson, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	20) *Manual communication* (systems such as manual alphabet, the language of signs, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	21) *Teaching reading to deaf* (techniques for developing skills, silent *vs* oral reading, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	22) *Subject matter instruction for the deaf* (selection of teaching material, development of abstract concepts, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	23) *Psychology of deafness* (effects of deafness on personality, psychological tests for deaf, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	24) *Social and vocational adjustment of deaf* (social limitations imposed by deafness, desirable occupations for deaf, etc.)	☐	☐	☐	☐

(*Cont'd on page 7*)

11. (*Continued from page 6*)

AUDIOLOGIST			TEACHER OF THE DEAF			AREA	EMPHASIS			
ESSENTIAL	DESIRABLE	NOT ESSENTIAL	ESSENTIAL	DESIRABLE	NOT ESSENTIAL		TOO MUCH	ABOUT RIGHT	TOO LITTLE	NONE AT ALL
☐	☐	☐	☐	☐	☐	25) *History and philosophy of education of the deaf* (historical evolutions of modern approaches, current issues, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	26) *Supervised teaching of a class of deaf students.*	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	27) *Supervised teaching of deaf children in language development, speechreading, or speech development.*	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	28) *Planned observations in day schools, residential schools, or classes for deaf children.*	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	29) *Planned observations at speech and hearing clinics.*	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	30) *Supervised practice in auditory training of the aurally handicapped.*	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	31) *Supervised practice in teaching speechreading to hard of hearing children and adults.*	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	32) *Supervised practice in hearing aid evaluation procedures.*	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	33) *Supervised practice in screening audiometry.*	☐	☐	☐	☐

PLEASE GO BACK OVER THE LIST TO MAKE SURE THAT EACH ITEM IS CHECKED THREE TIMES – ONCE IN THE "AUDIOLOGIST" COLUMN, ONCE IN THE "TEACHER OF THE DEAF" COLUMN, AND ONCE IN THE "EMPHASIS" COLUMN.

12a. Generally speaking, how would you characterize current relationships between audiologists and teachers of the deaf? Check ONE of the following.

- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ No opinion

12b. Generally speaking, how do today's inter-professional relationships between audiology and education of the deaf compare with those that existed in previous years? Check ONE of the following.

- ☐ About the same
- ☐ Improved
- ☐ Not as good
- ☐ No opinion

12c. Briefly explain your answers:

13. Below is a list of problem areas which make it difficult for audiologists and teachers of the deaf to work together. In your judgment, which of these problem areas are *currently* most critical? *Please check no more than three problem areas.*

- ☐ Lack of professional contact between audiologists and teachers of the deaf
- ☐ Inadequate information about the responsibilities and duties of audiologists
- ☐ Inadequate information about the responsibilities and duties of teachers of the deaf
- ☐ Lack of appreciation by audiologists of the work done by teachers of the deaf
- ☐ Lack of appreciation by teachers of the deaf of the work done by audiologists

(Cont'd on page 9)

13. (*Continued from page 8*)

- ☐ Poor communication between the executive offices of professional organizations representing teachers of the deaf and professional organizations representing audiologists
- ☐ Inadequate academic preparation of audiologists in education of the deaf
- ☐ Inadequate academic preparation of teachers of the deaf in audiology
- ☐ Conflicting or mutually exclusive goals of teachers of the deaf and audiologists
- ☐ Insufficient practicum experiences in education of the deaf by audiologists
- ☐ Insufficient practicum experiences in audiology by teachers of the deaf
- ☐ Lack of familiarity with the publications of each profession
- ☐ Other (specify)_____

_____

- ☐ There are no important problem areas affecting relationships between audiologists and teachers of the deaf

14. Which of the following steps do you think would make *important* contributions to improving relationships between audiologists and teachers of the deaf? *Check no more than three steps.*

- ☐ Establish more effective liaison between the American Speech and Hearing Association and the various organizations concerned with the education of the deaf
- ☐ Special programs for teachers of the deaf at American Speech and Hearing Association conventions
- ☐ Special programs for audiologists at conventions of the American Instructors of the Deaf
- ☐ Increase the number of audiologists employed in educational programs for the deaf
- ☐ Increase the number of teachers of the deaf employed in speech and hearing centers
- ☐ Joint participation of audiologists and teachers of the deaf in state or regional workshops
- ☐ Increase emphasis on education of the deaf in audiology training programs
- ☐ Increase emphasis on audiology in teacher of the deaf training programs
- ☐ Planned observations by audiologists of the work done by teachers of the deaf
- ☐ Planned observations by teachers of the deaf of the work done by audiologists
- ☐ Other (specify)_____

_____

- ☐ No steps are necessary

15. What major contributions can be made by audiologists to the education of the deaf? *Please check no more than three contributions.*

- ☐ Improved diagnosis and evaluation of hearing loss
- ☐ More meaningful recommendations concerning the use of hearing aids and the use of residual hearing
- ☐ Additional research on deafness, hearing aids, and auditory training
- ☐ More meaningful interpretations of audiological findings to parents
- ☐ Serve on the staff of teacher of the deaf training programs
- ☐ More active role in the placement of deaf children in educational programs
- ☐ Better evaluation of sensory and language abilities and disabilities
- ☐ More meaningful presentations to teachers of the deaf concerning the educational implications of audiological findings
- ☐ Other (specify)_____

16. What major contributions can be made by teachers of the deaf to audiology? *Please check no more than three contributions.*

- ☐ Participate in the audiological counseling of parents of deaf children
- ☐ Participate in the audiological evaluation of hearing disorders
- ☐ Participate in the follow-up audiological appraisals of children who are in deaf education programs
- ☐ Serve on the staff of audiology training programs
- ☐ Participate in audiological research related to deafness
- ☐ Assist audiologists in understanding language problems related to deafness
- ☐ Provide observational opportunities for audiologists in educational programs for the deaf
- ☐ Assist audiologists in understanding problems related to the teaching of deaf children
- ☐ Other (specify)_____

Please add any comments you would like to make concerning the relationships between audiologists and teachers of the deaf.

Your name _____

Your title _____

and position _____

We asked for your name and address so that we can record the fact that you have returned the questionnaire and can exclude you from follow-up mailings. The survey is completely confidential. Your name will not be associated with the findings in any way.

APPENDIX F

LIST OF PARTICIPANTS AT THE NATIONAL CONFERENCE ON AUDIOLOGY AND EDUCATION OF THE DEAF BY VRA REGION

VRA Region I

Conn., Maine, Mass., N.H., R.I., Vt.

Bellefleur, Phillip	Clarke School for the Deaf
Boatner, Edmund (VC)*	American School for the Deaf
Goodman, Allan	Children's Hospital Medical Center, Boston
Pronovost, Wilbert (C)**	Boston University
Youngs, Joseph	Governor Baxter School for the Deaf

VRA Region II

Del., N.J., N.Y., Pa.

Bartley, Thomas (Rev.)	De Paul Institute
Doerfler, Leo	University of Pittsburgh, School of Medicine
Frueh, Frank	Veterans Administration, Philadelphia
Galloway, James	Rochester School for the Deaf
Knight, Elmo (VC)*	Buffalo Hearing and Speech Center
Nober, E. Harris	Syracuse University
O'Connor, Clarence	Lexington School for the Deaf
Stelle, Roy (C)**	New York School for the Deaf

VRA Region III

D. C., Ky., Md., N.C., Va., W. Va., P.R., V.I.

Ambrosen, Lloyd (VC)*	Maryland School for the Deaf
Elstad, Leonard	Gallaudet College
Hardy, Miriam (C)**	Johns Hopkins Hospital
Hoffmeyer, Ben	North Carolina School for the Deaf
Johnson, Kenneth	American Speech and Hearing Association
Shinpaugh, Joseph	Virginia School for the Deaf and Blind

VRA Region IV

Ala., Fla., Ga., Miss., S.C., Tenn.

Heidinger, Virginia	University of Tennessee
McConnell, Freeman	Bill Wilkerson Hearing and Speech Center
Roach, Robert (C)**	University of Alabama Medical Center

* *Vice-Chairman of the planning committee for the regional meeting. Note: Ben Hoffmeyer served as Vice-Chairman for the Region IV meeting.*

** *Chairman of the planning committee for the regional meeting.*

VRA Region V

Ill., Ind., Mich., Ohio, Wisc.

Costello, Mary Rose	Henry Ford Hospital
Crawford, Gladys	Ohio State University
Gaeth, John	Wayne State University
Graham, James	Purdue University
Harford, Earl (VC)*	Northwestern University
Hayes, Claude	University of Wisconsin
Kopp, Harriet	Detroit Day School for the Deaf
Mangan, Kenneth (C)**	Illinois School for the Deaf
McClure, William	Indiana School for the Deaf
O'Neill, John	University of Illinois
Oyer, Herbert	Michigan State University
Quigley, Stephen	University of Illinois
Stafford, Patricia	MacMurray College
Yantis, Phillip	Western Reserve University

VRA Region VI

Ia., Kans., Minn., Mo., N.D., S.D., Nebr.

Harrison, Lloyd	Missouri School for the Deaf
Lassman, Frank	University of Minnesota
Melrose, Jay	State University of Iowa
Miller, June (C)**	University of Kansas Medical Center
Myklebust, Arthur	South Dakota School for the Deaf
Quigley, Howard	Minnesota School for the Deaf
Shore, Irwin (VC)*	Central Institute for the Deaf
Silverman, S. Richard	Central Institute for the Deaf
Smith, Carl	North Dakota School for the Deaf

VRA Region VII

Ark., La., N.M., Tex., Okla.

Hester, Marshall	New Mexico Foundation, Inc., (Captioned Films for the Deaf)
Hicks, Audrey (VC)*	Houston School for Deaf Children
Keys, John	University of Oklahoma Medical Center
Kopra, Lennart (C)**	University of Texas
Parks, Roy	Arkansas School for the Deaf
Rosen, Jack	New Orleans Speech and Hearing Center

VRA Region VIII

Colo., Idaho, Mont., Utah, Wyo.

Downs, Marion	University of Colorado Medical Center
Parker, Charles (VC)*	University of Montana
Turechek, Armin	Colorado School for the Deaf and Blind
Willeford, Jack (C)**	Colorado State University

** Vice-Chairman of the planning committee for the regional meeting.*

*** Chairman of the planning committee for the regional meeting.*

VRA Region IX

Alaska, Ariz., Calif., Hawaii, Nev., Oreg., Wash., Guam

Avery, Charlotte (VC)*	John Tracy Clinic
Calvert, Donald (C)**	San Francisco Hearing and Speech Center
Clatterbuck, Marvin	Oregon State School for the Deaf
Dixon, Richard	Stanford Medical Center
Lowell, Edgar	John Tracy Clinic
Newby, Hayes	President, American Speech and Hearing Association
Pittenger, Priscilla	San Francisco State College
Schunhoff, Hugo	California School for the Deaf, Berkeley
Tillinghast, Edward	Arizona State School for the Deaf and Blind

Observers

Blake, Gary	Vocational Rehabilitation Administration, Little Rock, Arkansas
Boudreaux, Jean	University of Arizona
Gough, John	Office of Education
Graham, Keith	Vocational Rehabilitation Administration
Harrington, Donald	Children's Bureau
Hoag, Ralph	Office of Education
Lambert, James	University of Arizona
Leshin, George	University of Arizona
Mordell, J. Solon	National Institute of Neurological Diseases and Blindness
Skinner, Paul	University of Arizona
Summers, Raymond	Neurological and Sensory Disease Service Program
Williams, Boyce	Vocational Rehabilitation Administration

Research Director – Joint Committee on Audiology and Education of the Deaf

Ventry, Ira M.

** Vice-Chairman of the planning committee for the regional meeting.*

*** Chairman of the planning committee for the regional meeting.*

APPENDIX G

RESOLUTIONS ACTED UPON AT THE

NATIONAL CONFERENCE ON AUDIOLOGY AND EDUCATION OF THE DEAF

Tucson, Arizona
December 7–10, 1964

PROPOSITION NUMBER*	AGREE	AGREE WITH RESERVATIONS	DISAGREE	STRONGLY DISAGREE	ABSTAIN
1.	RESOLVED that it be recognized that audiologists should participate in the habilitation and rehabilitation, as well as the identification, evaluation, and assessment of hearing of handicapped individuals.				
EDUCATION	19	9	1	0	0
AUDIOLOGY	29	3	0	0	0
2.	WHEREAS clinical audiology encompasses many aspects of hearing and deafness, and WHEREAS recent emphases have conveyed an impression that hearing testing and audiologic evaluations are the sole functions of the clinical audiologist, RESOLVED that among the contributions of a clinical audiologist are the following: 1. Assessment of hearing function and communication skills. 2. Interpretation of the results of the assessment. 3. Application of psychoacoustic and auditory information to all aspects of aural rehabilitation.				
EDUCATION	20	4	1	1	1
AUDIOLOGY	19	5	1	0	7
3.	WHEREAS there is general agreement that the training of specialists in the disciplines of clinical audiology and education of the deaf should include certain appropriate information, skills and attitudes about the other disciplines, and WHEREAS there is a need for guidance as to the specific nature of knowledge, attitudes and skills, RESOLVED that the two groups, ASHA and CEASD, be encouraged to set up a joint committee to make recommendations concerning these areas, in order that the inclusion of appropriate curricula in each area be fostered.				
EDUCATION	27	1	0	0	0
AUDIOLOGY	28	4	0	0	0
4.	WHEREAS the body of knowledge, attitudes and skills deemed necessary for the proper training of clinical audiologists has increased substantially in recent years, and WHEREAS knowledge of deaf children and their education is deemed important for the appropriate training of audiologists, RESOLVED that a minimum period of two post-baccalaureate academic years be required for the training of clinical audiologists in order to incorporate this body of knowledge into their training.				
EDUCATION	17	8	2	1	0
AUDIOLOGY	12	15	2	3	0

**This is not the order in which the resolutions were voted upon at Tucson. It is the order in which the resolutions appear in the text* (see Chapter IV).

PROPOSITION NUMBER	AGREE	AGREE WITH RESERVATIONS	DISAGREE	STRONGLY DISAGREE	ABSTAIN
5.	WHEREAS the body of knowledge, attitudes and skills deemed necessary for the proper training of teachers of the deaf has increased substantially in recent years, and WHEREAS knowledge of the field of clinical audiology is deemed important for the appropriate training of teachers of the deaf, RESOLVED that a minimum period of two academic years be required for the training of teachers of the deaf in order to incorporate this body of knowledge into their training.				
EDUCATION	13	10	3	2	1
AUDIOLOGY	14	12	4	1	1
6.	WHEREAS a problem area making for difficulty in achieving satisfactory relationships between teachers of the deaf and audiologists appears to arise from the differing academic degrees associated with specialists in the two fields (most teachers of the deaf are reported to have either bachelor's or master's degrees while most audiologists have master's or doctoral degrees), and WHEREAS higher education has dual objectives insofar as the education of teachers of the deaf is concerned—namely, broad education for purposes of self fulfillment and responsibility as a citizen, and also specialized training leading to competence as a teacher of the deaf, and WHEREAS these dual objectives cannot be successfully accomplished in undergraduate programs, RESOLVED that this conference recommends that graduate specialized training in teaching the deaf be superimposed upon a baccalaureate degree.				
EDUCATION	10	8	6	3	2
AUDIOLOGY	11	9	4	2	6
7.	RESOLVED that individuals engaged in teaching courses in audiology to students who are training to be teachers of the deaf shall have ASHA certification in audiology.				
EDUCATION	8	7	10	3	1
AUDIOLOGY	5	3	11	6	7
8.	RESOLVED that the significant variable to be considered in determining who shall teach audiologic content to students who are training to be teachers of the deaf is knowledge of the content. Clinical certification by ASHA may or may not be relevant in this determination.				
EDUCATION	20	5	2	1	1
AUDIOLOGY	22	6	1	2	1
9.	RESOLVED that individuals engaged in teaching courses in education of the deaf to audiology students shall have appropriate certification by the CEASD.				
EDUCATION	16	5	6	2	0
AUDIOLOGY	7	2	13	6	4

PROPOSITION NUMBER	AGREE	AGREE WITH RESERVATIONS	DISAGREE	STRONGLY DISAGREE	ABSTAIN
10.	RESOLVED that the significant variable to be considered in determining who shall teach courses in education of the deaf to audiology students is knowledge of the material. Certification by CEASD may or may not be relevant in this determination.				
EDUCATION	18	5	2	2	2
AUDIOLOGY	24	4	1	1	2
11.	WHEREAS among the greatly increased numbers of both teachers of the deaf and audiologists, some may lack skills and knowledge in teaching the deaf and in audiology, RESOLVED that appropriate public and private agencies be requested to sponsor regional and local workshops, in-service institutes, short-term courses, and other mechanisms for providing continuing professional education of these specialists.				
EDUCATION	19	9	0	0	1
AUDIOLOGY	26	4	1	0	1
12.	WHEREAS we recognize that attitudes can be improved whenever two separate professions relate to each other, RESOLVED that means be found whereby teachers of the deaf and audiologists presently actively engaged in their professions, be given the opportunity of having in-service training (including observations, demonstrations, and/or course work) in each other's area and institutions.				
EDUCATION	27	1	0	0	1
AUDIOLOGY	29	1	0	0	2
13.	WHEREAS the effective management of the hearing impaired child is contingent upon thorough evaluation of his handicap, RESOLVED that every hearing impaired child should have as early as possible, complete medical, audiologic and psychologic evaluations, and re-evaluations as necessary.				
EDUCATION	27	2	0	0	0
AUDIOLOGY	32	0	0	0	0
14.	WHEREAS, early identification and education of the hearing impaired child is of vital importance, and WHEREAS in certain areas these services are not available, RESOLVED that the responsibility for identification, education and training of the pre-school hearing impaired child is a public one and should have public financial support.				
EDUCATION	24	3	0	0	2
AUDIOLOGY	26	5	0	0	1
15.	WHEREAS the hearing and speech center is often engaged in the early identification, assessment, habilitation, and rehabilitation of the hearing impaired child and guidance of his parents, RESOLVED that such centers employ personnel knowledgeable about and familiar with the educational alternatives available to such children. It is emphasized that this knowledge and familiarity include the education of deaf children.				
EDUCATION	25	2	1	0	1
AUDIOLOGY	26	3	1	0	2

PROPOSITION NUMBER	AGREE	AGREE WITH RESERVATIONS	DISAGREE	STRONGLY DISAGREE	ABSTAIN
16.	WHEREAS the identification, assessment, habilitation and rehabilitation of the hearing impaired child is a complex task, RESOLVED that when appropriate, the educator of the deaf should participate in all of these activities.				
EDUCATION	20	3	2	1	3
AUDIOLOGY	16	2	9	2	3
17.	WHEREAS educational programs for hearing impaired children may be initiated, and WHEREAS the audiologist may have an opportunity to provide consultative services to the agency involved, RESOLVED that when the audiologist is consulted concerning the founding of new programs for the deaf, he should be familiar with the requirements for sound educational programs, including knowledge about homogeneity of classes, necessity of supervisory personnel, appropriate class size, adequate teacher preparation, suitable physical environment, and equipment for the program.				
EDUCATION	26	2	0	0	1
AUDIOLOGY	25	3	1	0	3
18.	WHEREAS there are significant numbers of young deaf adults who have terminated their formal education but who still require continued educational and/or habilitative services, RESOLVED that hearing and speech centers should consider the possibility of offering such services with appropriately trained professional personnel.				
EDUCATION	13	7	5	3	1
AUDIOLOGY	20	6	2	2	2
19.	WHEREAS the vocational problems of deaf persons often are as significant as their educational and communication problems and are not always solved during the educational years, RESOLVED that there should be at least one rehabilitation counselor for the deaf in every state. He should be professionally qualified in the areas of the deaf.				
EDUCATION	26	1	0	0	0
AUDIOLOGY	26	2	0	0	4
20.	WHEREAS schools for the deaf present fertile areas for audiologic research, and WHEREAS audiologic service is the primary responsibility of the audiologist in an educational program, RESOLVED that where research projects become a part of the audiology service in schools for the deaf, specific personnel be provided for such research projects apart from the audiological service aspect.				
EDUCATION	14	12	0	1	0
AUDIOLOGY	17	15	0	0	0

PROPOSITION NUMBER	AGREE	AGREE WITH RESERVATIONS	DISAGREE	STRONGLY DISAGREE	ABSTAIN
21.	RESOLVED that efforts should be made toward development of more extensive therapeutic and educational programs for hard of hearing children enrolled in public schools. These efforts should be specially directed to consideration of methods of providing such services to children who may be in widely scattered geographical areas.				
EDUCATION	25	1	0	1	0
AUDIOLOGY	29	2	0	0	1
22.	WHEREAS there is a need for audiologic services in educational programs for the deaf, RESOLVED that a full-time audiologist should be an integral part of the educational program for deaf children. The audiologist should be regarded as a full participating member of the instructional staff.				
EDUCATION	22	3	1	0	1
AUDIOLOGY	24	7	1	0	0
23.	WHEREAS full-time audiologic services are not possible in some educational programs for the deaf, RESOLVED that part-time services should be utilized as fully as possible until full-time services can be provided.				
EDUCATION	25	1	0	0	1
AUDIOLOGY	24	7	1	0	0
24	RESOLVED that an audiologist in an educational program for the deaf should be one who holds ASHA clinical certification in audiology. In the absence of certification, he should meet the academic and practicum requirements and be working toward completing the professional experience requirement.				
EDUCATION	20	6	0	0	1
AUDIOLOGY	31	1	0	0	0
25.	WHEREAS an audiometrist (for example, nurse, teacher or other person) may serve a useful function in an educational program for the deaf but is not competent to function alone, RESOLVED that this person work only under immediate and direct supervision of an audiologist.				
EDUCATION	10	12	3	3	1
AUDIOLOGY	26	2	0	0	4
26.	WHEREAS there is a shortage of audiologic services and personnel in educational programs for the deaf, RESOLVED that ASHA and educators of the deaf should inform audiologists of the opportunities in educational programs for the deaf.				
EDUCATION	26	0	0	0	1
AUDIOLOGY	30	1	0	0	1

PROPOSITION NUMBER		AGREE	AGREE WITH RESERVATIONS	DISAGREE	STRONGLY DISAGREE	ABSTAIN
27.	WHEREAS communication and understanding are necessary between the audiologist and the teacher of the deaf, RESOLVED that state, local, and area meetings or workshops be encouraged to share, develop, or discuss research techniques, service programs, and other matters of common interest as a way of improving communication and understanding between the two groups.					
	EDUCATION	26	1	0	0	0
	AUDIOLOGY	31	0	0	0	0
28.	RESOLVED that a most promising and productive mechanism for meeting the total needs of hearing impaired children and adults involves total community (district, regional, state, etc.) planning in which all involved state and private agencies, individuals and associations participate. These include health, welfare, education, and other professional groups.					
	EDUCATION	23	2	1	0	1
	AUDIOLOGY	28	2	0	0	1
29.	WHEREAS the National Conference on Audiology and Education of the Deaf, held in Tucson, Arizona, December 7–10, 1964, proved invaluable in bringing together workers in both fields who were interested and responsible, and WHEREAS these workers were able to identify mutual problem areas and make considerable progress in possible solutions of these mutual problems, and WHEREAS such a meeting of involved workers appears to be an ideal vehicle for free communication of mutual problems and possible solutions, RESOLVED that those present at this conference be strongly committed to continue this open communication through active participation in the proposed regional meeting, and through individual efforts to establish and maintain channels of communication with involved workers at the state and local levels.					
	EDUCATION	27	0	0	0	0
	AUDIOLOGY	31	0	0	0	0

APPENDIX H

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